

Patient Outcomes at St. Boniface Hospital in Manitoba:
A Second User Satisfaction Assessment of the C-HOBIC Assessment Tool

By

Al Hunt
BSN, University of Victoria, 2000

A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degrees of

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Abstract

Objective: The researcher replicated 12 questions from a previous user satisfaction study for the C-HOBIC assessment tool at St. Boniface Hospital in Winnipeg Manitoba. The research questions were: (a) what is user satisfaction regarding the C-HOBIC assessment tool 20 months after implementation, (b) has user satisfaction changed since the first evaluation, and (c) do user demographics correlate with user satisfaction and the C-HOBIC assessment tool?

Method: 20 months after the previous study (Canadian Nurses Association, 2015), a convenience sample of 71 participants from a pool of approximately 700 clinicians completed an online survey comprised of 12 questions taken from the previous study.

Results: The data were analyzed using Shapiro-Wilk, descriptive statistics, chi square test for independence, and Spearman's correlation. The Likert style survey produced discrete, ranked data that did not follow a normal distribution. Overall user satisfaction with the C-HOBIC assessment tool was rated higher in the previous group (n=59) as compared to user satisfaction in the current group (n=71). There was a significant but weak correlation with gender and C-HOBIC patient outcomes positively influencing patient care directions, and improving patient care planning. A significant but weak correlation existed between the years of a participant's clinical experience and the ease of integrating C-HOBIC into practice.

Conclusions: There were more participants not satisfied with the use of the C-HOBIC assessment tool than were satisfied. Participants in this study had less user satisfaction with the C-HOBIC assessment tool and associated outcomes than participants from a similar study 20 months before. Gender and years of clinical experience are correlated with user satisfaction. The small sample size, the non-normally distributed data, and convenient sampling method do not support generalization of the results beyond the data set.

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List of Acronyms and Abbreviations

C-HOBIC	Canadian Health Outcomes for Better Information and Care
ANOVA	Analysis of Variance
BPG	Best Practice Guideline
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CNA	Canadian Nurses Association
DAD	Discharge Abstract Database
EHR	Electronic Health Record
HOBIC	Health Outcomes for Better Information and Care (used in Ontario)
ICNP	International Classification for Nursing Practice
IHTSDO ¹	International Health Terminology Standards Development Organization
LOINC	Logical Observation Identifiers Names and Codes
LTC	Long Term Care
MAR	Medication Administration Record
MDS 2.0	Minimum Data Set version 2.0
NANDA	North American Nursing Diagnosis Association (until 2002)
NANDA-I	NANDA International Inc.
NLM	National Library of Medicine
NNQR-C	National Nursing Quality Report – Canadian
NQuIRE	Nursing Quality Indicators for Reporting and Evaluation
PTM	Program Team Manager
PubMed	A service of the US National Library of Medicine that: provides free access to Medline, the NLM database of indexed citations and abstracts to medical, nursing, dental, veterinary, healthcare, and preclinical sciences journal articles.
R	A language and computer environment for statistical computing and graphics. R is a GNU project and is free software. GNU is a recursive algorithm (GNU Not Unix).
SNL	Standardized Nursing Language
SNOMED-CT	Systemized Nomenclature of Medicine – Clinical Terms
TSR	Transition Summary Report
t-test	Student’s t-test. A test for statistical significance

¹ The organisation added the business name ‘SNOMED International’ on 31 Dec 2016. IHTSDO remains as the legal name of the organisation.

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The staff at St. Boniface Hospital in Winnipeg, Manitoba, helped me obtain information about the C-HOBIC implementation and were completely responsible for successfully advertising the research survey (and encouraging participation).

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To Adrienne Lewis and Kristie McDonald, the teamwork and camaraderie we shared through every stage of this adventure kept me aligned with the end in mind and I thank you. Our shared checking of details, planning of courses, working on projects, late night skype sessions, and simply being there for each other helped me through the many stages of frustration and elations of this program and I thank you.

Finally, I would like to thank Marlin McTavish—my wife, my best friend, my main editor, and my biggest supporter—for the countless hours spent supporting our journey through this double Masters program. I love you.

Dedication

This thesis is dedicated to my family and most especially my mom, Audrey Fraser.

Chapter 1: Introduction

Motivation and Background

The research began with the author's interest in understanding how nurses kept records of their work. After personally observing the many ways that nurses document the care they give, the author wanted to find the best way to document nursing care. This interest led to an investigation of Standardized Nursing Language (SNL). SNLs are specific terms and phrases that describe nursing care. While reviewing SNL literature, a document came to the author's attention that described Canadian Health Outcomes for Better Information and Care (C-HOBIC). C-HOBIC is an assessment tool designed by Canadian nurses for recording and retrieving patient outcomes. Rather than focusing on the language of nursing care, the C-HOBIC assessment tool records patient outcomes that are directly influenced by nursing activities (K. Hannah, personal communication, February 12, 2015; Jeffs, et al., 2012; Van DeVelde-Coke et al., 2012). The Canadian Nurses Association (CNA) states "It [C-HOBIC] gives nurses access to real-time information about the effects of nursing care on patients" (Canadian Nurses Association, 2013). C-HOBIC documents patient outcomes that have been influenced by activities (Hannah, White, Nagle, & Pringle, 2009). After learning more about C-HOBIC, the author's interest shifted from researching how nurses document patient care to researching nurses' use and satisfaction when using the C-HOBIC assessment tool.

Previous C-HOBIC user satisfaction evaluations

Long-term care facilities were the first to implement the C-HOBIC assessment tool. The second C-HOBIC implementation was in selected acute-care facilities. The integration of the C-HOBIC dataset into the main database of the Canadian Institute for Health Information (CIHI)

is the third phase of implementation (White & Canadian Institute for Health Information, 2016). There was little research reported on the C-HOBIC assessment tool concerning its application and user satisfaction. The C-HOBIC implementations have been evaluated twice: once in 2009 for long-term care, and once in 2013 for acute care (Canadian Nurses Association, 2009, December; Canadian Nurses Association, 2015).

Method and findings of previous acute care research

In the previous study, Nagle and Associates evaluated the acute care implementation of the C-HOBIC assessment tool at St. Boniface Hospital in Manitoba in the fall of 2013 (Canadian Nurses Association, 2015). An evaluation instrument was created and vetted by the C-HOBIC leadership team and on-site implementation leadership teams for the previous survey (Canadian Nurses Association, 2015). The evaluation used an online survey, two focus groups, and a follow-up interview and review with C-HOBIC users and nurse leaders. Two senior acute-care nurse leaders participated in a follow-up interview one year later (Canadian Nurses Association, 2015).

Aim of the current research

The research aimed to analyze user satisfaction with the C-HOBIC assessment tool drawing participants from the same group as the previous evaluation at St. Boniface Hospital. Another aim was to compare user satisfaction with the previous group.

Research questions:

The following research questions guided this thesis:

- What was user satisfaction regarding the C-HOBIC assessment tool at St. Boniface Hospital?
- Has user satisfaction changed since the first evaluation 20 months before?
- Do users of C-HOBIC have characteristics that correlate with user satisfaction?

Thesis organisation:

The thesis is organized into the following chapters: introduction, literature search, methods, results, and discussion.

Chapter 2 summarizes literature searches on SNL, C-HOBIC and commonly used statistical tests in user satisfaction research. The SNL literature summary presents an understanding of how nurses' work was standardized prior the development of C-HOBIC. The C-HOBIC literature summary presents the history, development, and use of the evaluation tool before this research. Finally, the literature on the most commonly used statistical methods in user satisfaction studies is summarized.

Chapter 3: Methods, has nine sections. A description of the research instrument and the recruitment details follow the ethical considerations for the research. The software and tests used to analyze the data follow the collection and preparation of the data.

Chapter 4: Results, has six sections. The results of the four types of analysis (Shapiro-Wilk test, descriptive statistics, chi-square test, and Spearman correlation test) follow the participant response rates and the discovery of a deployment error.

Chapter 5 discusses key findings from this current research, the implications for clinicians and research, the limitations of this research, and conclusions.

Justification for the study

This study is the first follow-up evaluation for an implementation of the C-HOBIC assessment tool. This research can provide information on C-HOBIC implementations that are not possible with an initial evaluation. For example, the second research question, has user satisfaction changed since the first evaluation, has not been asked before. This study was the first opportunity to evaluate differences in user satisfaction between similar groups of participants. As well, this research offered an opportunity to compare participants from two separate samples. If the samples are similar, the research may show differences in user satisfaction from shortly after implementation to 20 months later.

Chapter Summary

The origin of this research developed from the author's interest in understanding how nurses record their work using SNL. After reviewing articles about the C-HOBIC assessment tool, the author's interest changed from learning about how nurses describe their activities to learning about the C-HOBIC patient outcomes (empirically shown to be influenced by nursing activities). Researchers evaluated LTC (Long Term Care) and acute care C-HOBIC implementations for user satisfaction before this research. Researchers from the previous study evaluated user satisfaction with the C-HOBIC assessment tool at St. Boniface Hospital in Winnipeg Manitoba 20 months before the current research. The author conducted a second C-HOBIC user satisfaction survey at St. Boniface Hospital. The three research questions were: (a) what was the current state of C-HOBIC user satisfaction, (b) has user satisfaction changed over the previous 20 months, and (c) are there correlations between participant demographics

and user satisfaction. The organisation of the thesis has five chapters: an introduction, a literature search, a description of the methods, the results, and a discussion.

Literature Search

Introduction

The literature search is divided into three sections: Standardized Nursing Languages, C-HOBIC, and statistical analysis methods in user satisfaction studies. The author initiated the literature searches in 2014 and updated the searches in 2016. Forty two papers were retrieved on the topic of nursing documentation through standardized nursing languages, 11 papers on the topic of C-HOBIC, and a total of 47 papers on statistical analysis tests used to evaluate user satisfaction surveys. The author accessed grey literature on C-HOBIC through government websites, unpublished internal hospital documentation, and non-governmental organisation websites.

Each literature search was conducted at the University of Victoria's library using the online Summon feature. Summon is a library tool that searches all databases available to the University of Victoria's online library, including, for example, CINAHL, PubMed, and the Cochrane Database. The results of each literature search were the product of the advanced search feature on Summon.

Standardized Nursing Documentation

Search methodology for standardized nursing documentation.

The beginning search phrase for standardized nursing documentation was "nursing language." Options included were: items with full text online, limited to scholarly publications, exclude newspaper articles and book reviews, content options was set to "any". Subject terms were: classification, diagnosis, documentation, information systems, nurses, nursing, nursing

assistant – classification, nursing care – classification, nursing care – standards, nursing information systems, nursing process – classification, nursing records – standards, standardized nursing language, studies, and terminology. There were no limits set on the timeframe. The language used for the search was English. This search returned 311 articles. After adding the filters of ‘classification’ and ‘NOT theory’ and ‘documentation’ to the refinements, there were 73 results. The author inspected the abstracts for each article and excluded 31 articles for one or more of the following reasons: the article was not specific to nursing, the article was proposing a new nursing language, or the article was a technical explanation of computer language coding. The author removed these articles resulting in a total of 42 articles. After reading these articles, 16 were found to be relevant for this research.

Summary of the literature search on standardized nursing documentation.

Nursing groups and associations around the world were standardizing nursing language to document nursing care before Canadian nursing groups developed the C-HOBIC assessment tool in Canada. The initial creation and offerings of standardized languages for nurses to document what they saw and did regarding patient care spawned a multitude of creative efforts. Some of the most common SNL are in Appendix A. Nurses developed SNL so patient care and care planning could be concisely documented and communicated (Conrad, & Schneider, 2011; Moorhead, Clarke, Willits, & Tomsha, 1998; Ozbolt & Saba, 2008; Sansoni, & Giustini, 2006). The development of SNL began in earnest in the 1970s (Jones, Lunney, Keenan, & Moorehead, 2010). In 1973 the North American Nursing Diagnosis Association (NANDA) identified 37 nursing diagnoses (Ozbolt & Saba, 2008). In 1989, the International Council of Nurses (ICN) approved efforts to establish sets of words and phrases—the International Classification of Nursing Practice (ICNP)—specific to the practice of nursing (Saba, 2001). “Standardizing the

language of care (developing a taxonomy) with commonly accepted definitions of terms allows the discipline to use an electronic documentation system” (Rutherford, 2008, p.2). In other words, SNL uses specific definitions for terms to accurately describe aspects of nursing care with coding that is compatible with computer coding systems. Development of the C-HOBIC assessment tool began in the fall of 2006 (Hannah & White, 2012). The C-HOBIC assessment tool provides the means to standardize the collection and presentation of nursing sensitive outcomes (Hannah, White, Nagle, & Pringle, 2009).

Coding standardized languages for use in computers initially made the direct exchange of useable information between disparate standardized languages impossible. Taxonomy frameworks use a process called mapping to act as a bridge between standardized languages. Mapping is the construction of a reference that is common to the different languages. For example, using the English language to represent a reference for other languages (assuming everyone in this example knows English), red (the English representation) can be associated with other languages: rouge in French, rood in Dutch, and rosso in Italian. A person can exchange useable information by knowing how his language relates to the same word in English. In other words, because everyone understands what the English term red means, an Italian speaking person would understand that the Italian rosso and rouge in French means the color red. This concept of reference is used to build bridges of interoperability—the exchange of usable data—between standardized computer languages. Reference terminologies manage the storage, analysis, and transmission of data from multiple standardized languages (Shaw, 2012).

Reference terminologies, such as the Systemized Nomenclature of Medicine – Clinical Terms (SNOMED-CT), the Logical Observation Identifiers Names and Codes (LOINC), and the International Classification of Nursing Practice (ICNP) meet the demands for data storage,

transmission, and interoperability of database structures in electronic health care systems (Conrad, & Schneider, 2011; Goossen, 2006; LOINC, 1999; Swan, et al., 2004).

SNOMED-CT—owned by International Health Terminology Standards Development Organisation (IHTSDO)—uses a unique format to support computerized storing, retrieving, and classifying patient data from many clinical domains (Coenen & Kim, 2010; Conrad, Hanson, Hasenau, & Stocker-Schneider, 2012). LOINC is a universal coding system for tests and observations (LOINC, 1999). The initial build of LOINC began in 1994.

Mapping C-HOBIC patient outcomes and other SNLs to Reference terminologies such as INCP and SNOMED-CT makes the exchange of useable patient data between computer programs possible. In 2015 mapping was completed between the clinical terms and concepts used for the C-HOBIC assessment tool and the ICNP (Canadian Nurses Association, 2015). Furthering the efforts to promote interoperability, the ICN and IHTSDO announced in 2015 that mapping nursing diagnoses and nursing interventions between the ICNP and SNOMED-CT were complete (IHTSDO, & ICN, 2015).

SNOMED-CT is approved and recommended by Canada Health Infoway for use in Canadian Electronic Health Records (EHRs) (Canada Health Infoway, 2012). At the time of the literature review, Canadian EHRs had not included the ICNP in implementation (K. Hannah, personal communication with the author, 02 February 2015).

Interface terminologies provide a translation between the clinical expressions seen by users on a computer screen and the structured format required by the computer program (Ball & Hannah, 2011; Glushko, 2013; Rosenbloom, Miller, Johnson, Elkin, & Brown, 2006; Rozenblum et al., 2011). Mapping a program's interface terminology to the EHRs reference terminology allows the program to share usable information with other programs in the EHR (Ball & Hannah,

2011). To illustrate what this means we can look at what happens when an admission clerk registers a new patient. The words used to describe the new patient—name, date of birth, medical record number, and so on—are translated and stored by the admission program in a computer-based language that the computer understands. An electronic health record is a collection of individual computer programs that work in unison and store and share patient information. For example, a clinician searching for a patient uses a patient search program. The search program finds and retrieves patient information stored by the admission program. When a clinician opens a patient's electronic chart, information recorded and stored by other programs display the relevant patient information. For example, demographic information captured in the admission program populates the patient's Medication Administration Record (MAR) program. This information exchange is possible because all patient information is entered, coded, stored, and mapped to the EHRs reference terminology.

Swan et al. (2004, p. 328) established "Using nursing standardized language for nursing diagnosis and nursing interventions allows nurses' activities to be described alongside medical diagnoses and medical interventions, and their impact measured in relation to patient outcomes." Saba and Taylor (2007, p. 331) concluded "Standardized, coded nursing terminology identifies the complex elements that make up nursing care and enables generation of quantitative data to prove the relationship between nursing care and patient outcomes." C-HOBIC (an interface assessment application) allows for the computerized capture of patient outcome data. There is an empirical association between autonomous nursing care and C-HOBIC outcomes (McGillis Hall, 2013).

C-HOBIC

Search methodology for C-HOBIC.

The beginning search phrase in Summon (University of Victoria library's online search engine) for C-HOBIC and its use was – HOBIC OR CHOBIC OR C-HOBIC. Search refinements were: items with full text online, limited to scholarly publications, exclude newspaper articles, book reviews, and dissertations. Content type was any. Subject terms included: article, nursing, nurses, medicine and public health, standards, computer science – information systems, medical informatics, technology application, clinical nursing, clinical practice, and computer science – interdisciplinary applications. A visual inspection of the 18 articles from this search revealed that 11 articles did not meet the criteria leaving a total of nine articles in the literature search for C-HOBIC. An additional 13 grey resources for C-HOBIC literature were websites such as the Canadian Nurses Association, and Canada Health Infoway. St. Boniface Hospital forwarded some unpublished documents to the author.

The author updated the search for peer-reviewed C-HOBIC articles on 16 June 2016. The search term was C-HOBIC. Search parameters were: content type – any type; show only – items with full text online, scholarly materials, including peer-reviewed; excluded from results – newspaper articles, book reviews, and dissertations; and include – expanded results (include results from outside the library's collection). This search returned 20 articles of which nine were already in the author's possession from the previous search, four articles were integrative reviews and did not add new knowledge, two articles not used were written in French, and two articles were not retrievable. This search added three more articles for the C-HOBIC literature search. One of the three articles did not yield new information. The total articles on C-HOBIC for this literature search was 24 articles.

Summary of the literature search on C-HOBIC.

The origins of the C-HOBIC project began in 1998 when the Ontario Ministry of Health and Long-Term Care created a project called the Nursing and Health Outcomes Project (NHOP). The goal was to use empirical research to identify patient outcomes where nurses' contributions made a difference. Project leadership later changed the project name to the Health Outcomes for Better Information and Care (HOBIC) (K. Hannah, personal communication, February 12, 2015; Van DeVelde-Coke et al., 2012; White, Pringle, Doran, & Hall, 2005). The HOBIC assessment tool uses 24 identified outcomes and records assessments under four patient categories; functional status, symptom status, safety outcomes, and therapeutic self-care (Wodchis, 2012). Research confirmed the correlation between nursing interventions and the HOBIC patient outcomes (McGillis Hall, Wodchis, Ma, & Johnson, 2013). The research also affirmed that access to a patient's health status gave staff nurses the opportunity to assess whether the patient's health had improved (McGillis Hall et al, 2013). C-HOBIC uses the same methodology and patient outcomes as those used in HOBIC (Appendix B).

After presentations to the CNA (Canadian Nurse Association), the C-HOBIC project began in the fall of 2006 (Hannah & White, 2012). The C-HOBIC project, managed by the CNA, is partnered with Canada Health Infoway and the involved provincial partners (Hannah & White, 2012). There are three C-HOBIC project phases. The first phase (2007 to 2009) was to implement the assessment tool in Ontario, Manitoba, and Saskatchewan. Ontario implemented C-HOBIC in all four health sectors (acute, long-term care, complex continuing care, and home care). Manitoba implemented C-HOBIC in long-term care and home care. Saskatchewan implemented C-HOBIC in long-term care. In addition to implementation, the first phase was to teach nurses about the collection of standardized clinical outcomes and how to use the

information to improve patient care (Canadian Nurses Association, 2013). The second phase of the C-HOBIC project used C-HOBIC outcome data to create a report that supported patient transitions from the acute healthcare sector to other healthcare sectors (Canadian Nurses Association, 2015). The third phase of the C-HOBIC project integrates C-HOBIC data into the Discharge Abstract Database (DAD). The DAD, a database originally developed in 1963 and administered by the Canadian Institute for Health Information (CIHI), captures “administrative, clinical and demographic information on hospital discharges” (Canadian Health Institute for Health Information, n.d.).

C-HOBIC is one of three complementary Canadian initiatives that focus on specific outcome measurements (Canadian Nurses Association, n.d., para 10). The C-HOBIC assessment tool records patient outcome data and produces patient outcome reports based on nursing-specific care. The other two programs are the Canadian National Nursing Quality Report (NNQR-C), and the Nursing Quality Indicators for Reporting and Evaluation (NQuIRE) (Boal et al., 2012; Canadian Nurses Association, n.d., para 10). The NNQR-C is a tool that gathers structure, process, and outcome data from EHRs and other sources to enable governments and healthcare organisations to make better decisions regarding nursing staff mixes and models of care (Boal et al., 2012). The NNQR-C was a one-year pilot project. (Canada Health Infoway, 2014, June). The NNQR-C report includes some C-HOBIC patient outcome data elements (Canadian Nurses Association, 2015). NQuIRE uses Best Practice Guidelines (BPG) for nurses to develop evidence-based order sets for nurses (Boal et al., 2012). While incorporating the nursing order sets in paper-based recording systems is possible, they are designed for use within an electronic health record (Boal et al., 2012). NQuIRE was designed to provide automatic

monitoring and reporting of the Registered Nurses Association of Ontario (RNAO) Best Practice Guideline (BPG) implementations (NQuiRE, 2016).

C-HOBIC phase one implementation.

Organizations in Ontario, Saskatchewan, and Manitoba completed phase one C-HOBIC assessment tool implementations between 2007 and 2009 (HOBIC and C-HOBIC use the same indicators). The implementation in Ontario consisted of acute care, long-term care, complex continuing care, and homecare. Implementation of the C-HOBIC project in Saskatchewan enhanced the electronic reporting tool, MDS 2.0 (Minimum Data Set 2.0), already gathered by nurses in Saskatchewan long-term care (Canadian Nurses Association, 2015) and for the first time provided data back to nurses for their use (not previously available). Similarly, long-term care nurses and home care workers in Manitoba used the Momentum LTC and home care applications and MDS 2.0 software (Canadian Nurses Association, 2009, December).

C-HOBIC phase one evaluation.

When the C-HOBIC phase one evaluation began, the outcomes assessment tool had been in use in Ontario for at least one year, in Manitoba for a few weeks, and was in the process of being implemented in Saskatchewan (Canadian Nurses Association, 2009, December). The phase one evaluation consisted of a 25-question user satisfaction survey, five focus group sessions, and one key stakeholder interview. This evaluation focused on three areas; do nurses use C-HOBIC information, were nurses satisfied with the C-HOBIC information, and has nurses' practice changed because of the availability of C-HOBIC information. The researchers did not report statistical significance. However they did report an association between user satisfaction and the amount of time that had passed between C-HOBIC implementations and C-HOBIC user

satisfaction assessments; the more time that had passed between implementation and assessment, the better nurses liked using the C-HOBIC assessment tool and related outcomes. The survey also showed an association between successful implementations and the amount of time and resources organisations allocated to assist clinicians in successfully bringing C-HOBIC into their practice (Canadian Nurses Association, 2009, December). Hannah et al. (2009) established that when information systems provide real-time feedback on the care that clinicians provided, that information system is valued by those clinicians. One of the challenges with the implementation in Manitoba was the inability to embed the C-HOBIC report into the reporting structure of the Momentum LTC and homecare application. This technological issue meant that the system most often did not provide nurses feedback in real time (Canadian Nurses Association, 2009, December).

C-HOBIC phase two implementation in Manitoba.

St. Boniface Hospital completed the C-HOBIC phase two implementation in March 2013 (Canadian Nurses Association, 2015). In a pre-implementation report the clinical oversight team for the implementation of C-HOBIC at St. Boniface identified a concern that C-HOBIC appeared to be gathering data already captured in other assessment tools (the details of what data and what other assessment tools was not in the report). The clinical oversight team also stated assumptions about the implementation. The first assumption was that the IT department would develop a capability to generate reports using C-HOBIC data. The second assumption was that nurses would have an education plan for reviewing and using the C-HOBIC outcome reports (St. Boniface Hospital, 2015a, June). The C-HOBIC assessment was to be completed once at admission and again at discharge (St. Boniface Hospital, 2013). The clinical oversight team questioned how the singular C-HOBIC admissions assessment report could be used for ongoing

patient care. Another concern identified by the oversight team was the inability to measure the influence of the C-HOBIC assessment tool for patient care planning. The Work Plan (St. Boniface Hospital, 2015a, June) also stated that “If utility cannot be identified for the bedside nurse, and the PTM [Program Team Manager] the use of C-HOBIC will be evaluated.”

C-HOBIC phase two evaluation in Manitoba.

The initial phase two evaluations for C-HOBIC were carried out in Manitoba (fall of 2013) and Ontario (fall of 2014) (Canadian Nurses Association, 2015, January). Some organisations in Ontario had been using the assessment tool since 2006. In Manitoba, the evaluation at St. Boniface Hospital was carried out between two and five months after implementation. One hundred and fifteen of a possible 700 clinicians participated in the survey. The Manitoba evaluation used an online survey, two focus groups, a follow-up interview, and a review with C-HOBIC users and nurse leaders. Researchers conducted a follow-up interview with two senior acute-care nurse leaders one year later. (Canadian Nurses Association, 2015).

The initial phase two user satisfaction evaluation in Manitoba asked participants about the clinical value of C-HOBIC information, how their clinical work incorporated the C-HOBIC information, and how C-HOBIC assessments impacted the transfer of patients from one healthcare sector to another. The final focus was to identify lessons learned in the implementation to inform future implementations of C-HOBIC.

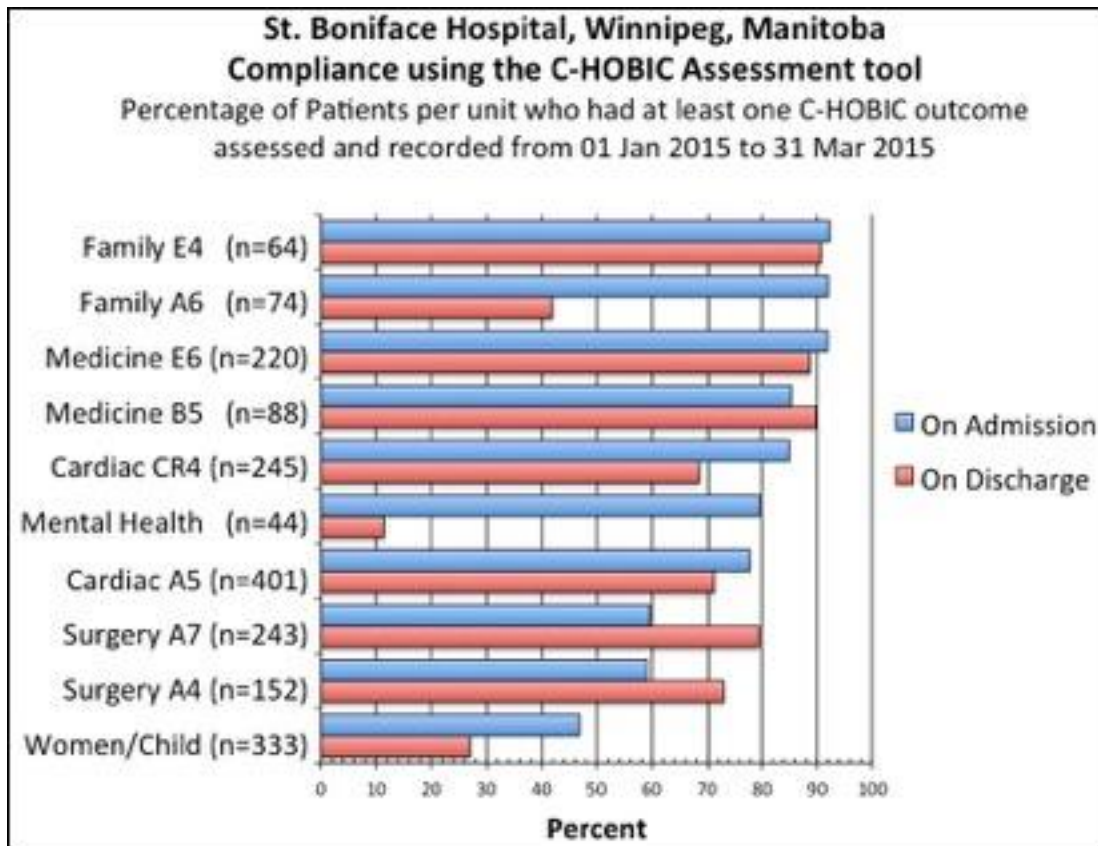
Descriptive statistics were used to describe the data set for the phase two Manitoba implementation of the C-HOBIC assessment tool (Canadian Nurses Association, 2015, January). More than 54% of participants indicated C-HOBIC information was relevant to the care of their patients. Some of the participants commented that other tools in use seem to be collecting the same information. Of the 115 participants, 55.6% said they would continue to access C-HOBIC

information (though some participants indicated they were required to do so). The question of whether they would recommend C-HOBIC to other colleagues garnered answers from only three-quarters of the participants. Less than half of those who answered would recommend it to their colleagues (Canadian Nurses Association, 2015, January).

Compliance for using C-HOBIC.

Compliance for using C-HOBIC at St. Boniface Hospital was audited for the first three months of 2015 (St. Boniface Hospital, 2015b, June). The results were by program: family/geriatrics, medicine, cardiac science, mental health, surgery, and woman/child. The woman/child program was not required record C-HOBIC data for same day admissions. The mental health program uses C-HOBIC only to capture pain. (St. Boniface Hospital, June, 2015b). There were two sets of data; one set for admissions and one for discharges. Included in the report were the compliance figures for each of the elements in the C-HOBIC assessment tool—Figure 1 shows outcomes that were measured at least once on admission and once on discharge.

Figure 1 C-HOBIC compliance



Note: (St. Boniface Hospital, 2015b, June).

Statistical Methods in User Satisfaction Studies

The purpose of evaluation research is to evaluate a policy, program or practice (Connelly, 2015). User satisfaction surveys—like the online surveys in this research—are used to gather data for the evaluation. Answers to questions on user satisfaction surveys provide data that can be analyzed using statistical tests. Dytham (2011, p.4) states “In general, statistics are the result of manipulation of observations to produce a single, or small number of results.” In other words, individual surveys are counted together in such a way that we can analyze the results as a whole. The author decided to review the literature on using statistical analysis methods as previous C-HOBIC evaluations described their survey data but did not use statistical analysis.

The Likert scale was developed in 1932 to allow the scientific measurement of attitude (Joshi, Kale, Chandel, & Pal, 2015). Likert-style data, like the data for this research, are produced when answers to a question are in the form of a set of choices (Joshi, et al., 2015). For example, many of the answers for this survey consisted of the following set of choices: strongly disagree, disagree, neutral, agree, and strongly agree. The author intended to develop competency in choosing statistical tests by searching the literature to discover 1) how to classify Likert data, and 2) what statistical tests other researchers used to analyze their Likert data. Once the characteristics of the data were known, and the methods other researchers used to analyze Likert data were reviewed, the author could determine what methods to use for this study.

Search methodology for statistical methods in user satisfaction studies.

The online summons search feature at the University of Victoria was used to gather literature on classifying Likert data and statistical analysis methods used by researchers who employed online surveys to study user satisfaction.

Search terms were “Nurse*” OR “Survey*” AND “method*” AND “Statistical analysis” AND “Computer program*” AND “user satisfaction” AND “Likert.” Search restrictions were scholarly materials, including peer-reviewed. Excluded from the results were newspaper articles, book reviews, and dissertations. Content type restrictions were: journal article, conference proceeding, magazine article, student thesis, publication, market research, presentation, magazine, article, and book. The author visually inspected each of the resulting 63 articles to ensure each article included the requirements of stating a sample size, using Likert scales, and using at least one statistical test (descriptive statistics did not count as a statistical test for this requirement). Eighteen of the articles did not meet the requirements of the intended search leaving 46 articles for review.

Summary of the literature search for statistical methods in user satisfaction studies.

The scientific community has battled for decades over whether data typing matters when selecting statistical tests (de Winter, & Dodou, 2010; Haimson, Swain, & Winner, 2011; Norman, 2010; Rasmussen, 1989; Velleman, & Wilkinson, 1993). One has to decide what path to follow in choosing a method for analysing data. The author decided that typing research data do matter and found Calvin Dytham’s (2011) book on choosing statistical tests to be a valuable resource in defining the data. Dytham (2011) describes Likert data as:

- discrete - only values possible are whole numbers one through five,
- ranked - number 1 (e.g.: strongly disagree) indicates a stronger statement of disagreement than number 2 (e.g.: disagree),
- ordinal - the order of the data is meaningful, and

- categorical - the numbers one through five are labels for categories of agreement or disagreement.

Once the data type for this research was known, it was a bit clearer what tests would be appropriate. Jamieson (2004) affirms the use of inferential statistics in the analysis of ordinal data and states that non-parametric tests, like chi-square and Spearman's correlation, should be used. Non-parametric tests are sometimes referred to as distribution-free tests as these tests do not require the data to follow a normal distribution (Dytham, 2011).

About parametric statistics, Dytham (2011, p. 33), states "For instance, they usually require variables to follow known distributions, usually the normal. If the data do conform to the assumptions, then these tests are usually more powerful and should, therefore, be preferred". Parametric tests using normally distributed data are usually more powerful for statistical examination of data. Using Nonparametric tests with non-normally distributed data are safer, though less powerful, than parametric tests (Dytham, 2011; Jamieson, 2008). The chi-square goodness of fit, Shapiro-Wilk or Kruskal-Wallace can be used to determine if the data are normally distributed (Dytham, 2011; Joshi, et al., 2015).

The compendium of tests in Table 2.1, shows the name, frequency, and data requirements for each test used by researchers in the articles gathered for the literature search. Table 2.1 guided the author in choosing statistical tests for the user satisfaction component of the study.

Table 2.1

Statistical tests most frequently used for Likert-type data

Test	count	Tests data type
Descriptive Statistics	33	Neutral
t-test	11	Parametric
ANOVA	9	Parametric
Pearson's correlation	9	Parametric
chi-square	7	Neutral
Cronbach's Alpha	7	Neutral
Factor analysis	7	Parametric
Regression analysis	7	Parametric
Wilcoxon	4	Parametric
Spearman Correlation	3	Non-parametric
Correlation	2	Parametric
exploratory factor analysis	2	Parametric
F-test	2	Parametric
Kruskal-Wallace	2	Neutral
Mann-Whitney	2	Non-parametric
Multiple Regression	2	Parametric
Bartlett's	1	Parametric
Binomial Generalized Linear Models	1	Parametric
Content Analysis	1	Neutral
Gamma correlation	1	Parametric
Kappa	1	Non-parametric
Levine	1	Neutral
Ordinal Logistic Regression	1	Parametric
Principal Component Analysis	1	Parametric
Shapiro-Wilkes	1	Neutral

Note: The author acknowledges that descriptive statistics are not a statistical test, but a description of a dataset. 'Neutral' indicates the test can be used regardless of distribution.

Chapter Summary

In the early 1970s to the late 1980s, nursing groups established sets of words and phrases called SNLs. Using SNL, nurses can accurately describe patient care specific to nursing. SNLs were written to be compatible with computer coding systems. When used with computer systems SNLs are referred to as interface terminologies. Alone, interface terminologies can interpret and store specific coded data, but cannot share useable data with other interface terminologies.

Reference terminologies such as SNOMED-CT and ICNP provide the technology to interpret, store, and transmit usable data between interface terminologies.

Nursing interventions and C-HOBIC patient health outcomes are empirically correlated. Researchers conducted user satisfaction evaluations of the C-HOBIC assessment tool in Ontario and Manitoba. Prior to the current study, user satisfaction for C-HOBIC in an acute care setting was evaluated at St. Boniface Hospital in Winnipeg, Manitoba. Most participants in the previous survey indicated that C-HOBIC outcomes were relevant to the care of their patients (54%), that they would continue to access the outcomes information (55.6%) but less than 37.5% would recommend C-HOBIC to their colleagues.

Researchers who used Likert scales to measure user satisfaction responses in their surveys employed a variety of methods to analyze the data. Few researchers described the data type or if the data from the survey had a normal distribution. Describing the data set using descriptive statistics is common among researchers. It was not common among researchers to justify their use of parametric or nonparametric tests in the subsequent analysis of their data. Normal distribution of the data is not a requirement for some statistical tests, but parametric tests are more powerful when researchers use normally distributed data. The three parametric tests most commonly used with Likert scales were the t-test, ANOVA, and Pearson's correlation. The three non-parametric tests most commonly used with Likert scales were Spearman correlation, Mann-Whitney, and Kappa. The top three neutral methods of analysis most commonly used with Likert scales were chi-square, Cronbach's alpha, and Kruskal-Wallace.

Methods

Introduction

The chapter presents the methods and approach used to conduct the thesis research: the research questions, the approach to answering the questions, the ethical approval, the description and deployment of the research instrument, and the selection of participants. The author also presents how the data was collected, prepared, and tested. Also, the author presents a description of the analysis software used to analyze the data.

The three research questions, as previously stated in Chapter 1, are:

- 1) what was user satisfaction regarding the C-HOBIC assessment tool at St. Boniface Hospital 20 months after implementation,
- 2) has user satisfaction changed since the since the first evaluation 20 months before, and
- 3) do users of C-HOBIC have characteristics that correlate with user satisfaction?

Research Approach

Researchers use evaluation research to seek feedback about an object or program and gather data on events that have already occurred (Connelly, 2015; Thompson & Panacek, 2007). LoBiondo-Wood and Haber (2013, p.229) state that evaluation research “is the use of scientific research methods and procedures to evaluate a program, treatment, practice, or policy. In evaluation research, analytical means are used to document the worth of an activity such as an intervention, but such research is not a different design”. LoBiondo-Wood and Haber (2013) mean researchers use tools that have been scientifically designed to analyze something that has happened. An example would be evaluating the effectiveness of different types of dressings on similar wounds, or assessing user satisfaction for the C-HOBIC assessment tool. Powell (2006)

concluded that evaluation research was not so clearly defined, saying that evaluation research can be viewed as a specific methodology for research, as an assessment process to evaluate programs, and as a type of research that uses standardized research methods for evaluating (Powell, 2006). Online surveys are a form of evaluation research.

The methods used for the previous C-HOBIC evaluation at St. Boniface Hospital included a 22-question online survey, focus groups with nurses who use the C-HOBIC assessment tool, and interviews with four senior St. Boniface Hospital nurse leaders. A follow-up interview was conducted with two senior St. Boniface Hospital nurse leaders in December 2014 (Canadian Nurse Association, 2015). The last ten questions of the previous survey focused on the use of the C-HOBIC Transition Synoptic/Summary Report (TSR). The TSR is a summary generated from C-HOBIC data and meant to facilitate patient transitions from one sector of healthcare to another.

The evaluation survey tool for the current research used the first 12 questions from the previous survey (Appendix B) and was deployed online from August 29 to October 2, 2015. The current research did not include an evaluation of the TSR. There were several optimal reasons for using the first 12 questions from the previous survey to answer the three research questions for the current research study. The questions were already designed to answer questions about user satisfaction with the C-HOBIC assessment tool. The survey instrument had been field tested; the researcher did not have to create or field test a new instrument. The previous survey instrument, already vetted by nurse leaders in the C-HOBIC project and implementation teams, had face validity—the questions asked nurses about their perceptions of the C-HOBIC assessment tool. Also, the data from the previous survey was available for use in the research study. Using the same instrument and drawing from the same pool of potential participants made it possible to

analyze differences between participant answers in the current study and participant answers from 20 months earlier.

The survey questions were grouped into the following categories:

- participant work demographics,
- user satisfaction with the information system at St. Boniface Hospital,
- user views on, and how they relate to, C-HOBIC outcomes,
- integration and use in clinical documentation and the effect on clinical practice,
- if the participant was planning to continue using the C-HOBIC assessment tool, and
- to whom they might recommend this technology.

Data from the survey helped answer the thesis questions by gathering information on events that had already occurred. The online survey was appropriate for evaluation research.

Ethics

The University of Victoria human research ethics committee approved the proposed research with no revisions, and a certificate of approval was granted on 08 July 2015.

Subsequently, the research was granted approval from the ethics department at the University of Manitoba (St. Boniface Hospital uses the ethics department from the University of Manitoba to conduct ethics reviews for research) on 06 August 2015 after one revision. The St. Boniface Research Review Committee granted approval for this research on 17 August 2015.

Description of the Research Instrument

This section gives a brief description of the survey (see Appendix C). There were no optional questions. Each question about C-HOBIC allowed, but did not require, the participant to enter a comment about the question. Question 11 required the participant to enter a comment before moving on to the next question. The survey software allowed the participant to finish the survey by clicking the submit button.

The first web page of the survey being reported contained participation information about the survey. This page contained the consent to participate, the privacy policy, how the data would be secured, participant criteria, the contact information for the researcher, and the contact information for ethics committees of the University of Victoria and the University of Manitoba (Appendix D). At the end of the page was a button that, when clicked, indicated that the participant had consented to participate in the research. The last page of the survey had a submit button that, when clicked, indicated the participant was willing to have their answers included in the survey results.

Question one asked for the participant's primary working position in the hospital. Eleven possible answers and a comment box formed question one. A question about gender and a comment box formed question number two. Survey question three asked how many years of clinical experience the participant had. There were clinical experience sections in increments of five years each, up to the last choice—more than 20 years. Question four asked where the participant primarily worked. This listing included the major health units in the hospital and provided a box for the participant to enter a name for units not listed. These demographic questions help the researcher understand more about the participants who decided to complete the survey.

Question five was a simple yes/no question that asked if the participant was familiar with C-HOBIC outcomes. Question six was a follow-up to question five and asked what clinical settings the participant had reviewed C-HOBIC outcomes. Question six allowed the participant to select more than one clinical setting and provided a comment box to name the unit.

Question seven asked about the computer system used to document and retrieve C-HOBIC outcomes. This question provided the participant with an opportunity to choose one of

four answers, strongly disagree, disagree, agree, and strongly agree for each of the questions of was the information system used accessible, reliable, easy to use, and responsive? The participant had to choose one of the four answers before they could move on. Each of the four questions had boxes for optional comments.

Survey questions eight through ten were a group of 14 questions. The questions asked the participants about C-HOBIC outcomes as they related C-HOBIC's relevance to clinical practice, the integration and use of clinical documentation, and patient care and coordination. Each question provided boxes for an optional comment.

Question 11 was a yes/no question and asked if the participant was likely to continue to use C-HOBIC outcomes for patient care. The participant *had* to comment on their answer before being allowed to continue.

Question 12 asked if the participant would recommend using C-HOBIC to others. The participant had to select one or more of the five responses. One of the five responses was 'other' where the participant could supply their comment.

Participant Criteria

The opportunity to participate in the survey was available to all staff working at St. Boniface Hospital in Winnipeg, Manitoba, who met five participation criteria. The first web page of the survey included all the participation criteria (Appendix D). Qualifying participants were health professionals employed by St. Boniface Hospital, had used—or were using—C-HOBIC in their work, had access to a computer and the internet, were able to read and write in English, and had consented to participate. A statement on the criteria web page indicated the survey might take 30 minutes to complete.

Participant Recruitment

Leaders and staff members in the research department at St. Boniface Hospital assisted with the organisation of the onsite ethics application, research approval process, printing and placing of posters (Appendix E), and promoting the research to the administrative and unit leaders at St. Boniface Hospital. Once the current survey was online, St. Boniface leaders and managers encouraged staff to participate. This method of retaining volunteers to participate in the research is known as convenience sampling.

Convenience sampling (also known as non-probability sampling) does not require much work on the part of the researcher to select participants. This self-selection method requires advertising of the survey. People can volunteer if they fit the criteria and they wish to participate (for any reason). This method has a low cost of gathering a sample, but the self-selection feature may introduce a sample bias (Blackstone, 2012; Hedt, B., & Pagano, M., 2011). While some studies using randomly selected samples have reached similar conclusions as studies that used convenience samples, empirical evidence suggests there are substantial differences (Baker, et al., 2010; Pasek, 2016). Part of the analysis of this research is deciding if the results from the convenience sample are generalizable.

Data Collection

Web-based surveys are created and posted to the Internet by the researcher. The researcher controls every aspect of survey creation, distribution, and data collection. It was desirable to re-create the questions from the previous survey, have full administrative control, and ensure the privacy of the participants. A Canadian online survey company, FluidSurveys™, provided these capabilities.

FluidSurveys™ assured its Canadian customers that surveys and the data collected through the FluidSurveys™ software would remain on Canadian servers. The trust between researcher and participant is an important consideration for the privacy and security. Keeping participant data on servers physically located in Canada helps maintain that trust.

The survey was deployed online through the FluidSurvey™ website. After four weeks, there were 64 completed questionnaires, and the author extended the survey for one more week. After the additional week, the number of completed questionnaires rose to 71. The second of October 2015 was the last day the survey was available.

Preparing the Data for Analysis

After the survey had closed, the researcher exported the survey data to a local computer. The exported formats were Microsoft Word and Excel. The Word document was a report that included summaries, graphs, and participant comments. The Excel spreadsheet contained the raw data for the previous and current surveys.

The raw data from the previous survey (n=115) and raw data from the current survey (n=95) had slight differences. Thus, the first part of the process was to align the two sets of data. The first part of the alignment was to eliminate data that was not necessary for the analysis. For example, not required for analysis were participant email addresses, the times for survey completion, and unique computer identifiers. To further align the two sets of data, the sheets for both sets of data had a column added to enable the author a way to indicate if the participant had completed the survey. Filters on the spreadsheet were used to remove incomplete surveys. Filtering for completed surveys only reduced the number of surveys to 59 useable responses from the previous survey and 71 useable responses from the current survey.

The previous survey and current survey used different software. The differences in the software produced slightly different survey outputs. For example, where the column header for gender in the previous evaluation was 'What is your gender?,' the column header in the current survey was 'My gender is:.' To resolve this, the author renamed each column 'Gender.' Similar aligning of columns continued for all remaining data.

The next step to align the data was to change the language-based output from the survey to numerical form. For example, the numeral '1' replaced the words 'strongly disagree,' the numeral '2' replaced the words 'disagree' and so on. The author recorded these changes in a codebook (Appendix G).

Choosing Statistical Tests.

As outlined in Chapter 2, before determining what tests to use for the statistical analysis, it was necessary to determine the distribution of the research data. If the data followed a normal distribution, the researcher could use parametric tests for statistical analysis. If the data did not follow a normal distribution, nonparametric tests should be used (Dytham, 2011).

The Shapiro-Wilk test

The Shapiro-Wilk test compares the distribution of the sample data to a normal distribution. The test, known as the benchmark among alternatives for testing the normal distribution of data, is best used for samples having greater than 50 observations. (Dytham, 2011; Lee, Qian & Shao, 2014). If the results of the Shapiro-Wilk test show the data follow a normal distribution, then the author can use parametric tests to analyze the data. If the results show the data do not follow a normal distribution, then nonparametric tests will be used for further analysis.

Descriptive statistics.

As shown in Chapter 2: Literature Search (see Table 2.1, page 27) using descriptive statistics to describe the data sets derived from surveys is a common and frequently used method in research. Simple sums and percentage distributions were used to describe the data from the previous survey (Canadian Nurses Association, 2015). Using descriptive statistics is not a statistical analysis of the data and therefore carries no assumption about the distribution of the data. The author will apply descriptive statistics to the current survey data as well. Descriptive statistics give summary information about the data that was collected and allow comparisons between the previous study's data set and the current study's data set.

The chi-square test for independence.

The chi-square test for independence measures differences between expected and observed values. According to the literature, the chi-squared test for independence can be used with no expectation that the data follows a normal distribution. Because there is no expectation for the data to follow a normal distribution the author decided to use the chi-square test as part of the statistical analysis of this research data. The participants in the current study answered the same questions as the participants in the previous study with an interval of approximately 20 months. The assumption for the chi-square test for independence was that each group of participants would answer the survey based on their clinical experience using the C-HOBIC assessment tool and outcomes. The chi-square test measures the difference between how the groups were expected to answer the questions and how they answered the questions. In other words, the chi-square test will tell us if participants from the study group had a different response to the survey questions than the participants from the previous group.

The larger the difference in response to the survey questions between the two groups, the lower the p-value for the chi-square test. The critical value for the chi-square test was 0.05 (p-values at this value, or lower, were significant). Data were set up in contingency tables (each table cell is called a count). The criteria for using the chi-square test are “No more than 20% of the expected counts are less than five and all individual expected counts are 1 or greater” (Yates, Moore & McCabe, 1999, P. 734).

Spearman’s rank correlation.

According to the literature search (see Table 2.1, page 27) Spearman’s rank correlation is the most commonly used nonparametric statistic (the data does not follow a normal distribution). Spearman’s correlation analyzes the monotonicity between two observations. Associations can be either positive or negative, strong or weak, and significant or not significant. Significance values lower than the critical p-value indicate that the associated correlation value was unlikely to have happened by chance.

Research has shown that sample size plays an important role in determining confidence for correlation values. Sample sizes less than $n=150$ requires a researcher to accept a less stable estimate of confidence for the correlation value (Schönbrodt, & Perugini, 2013). Sample bias can affect the correlation coefficient by as much as 0.03 to 0.04 (de Winter, Gosling & Potter, 2016). “In general, if the sample size is small, the correlation coefficient has to be large (close to -1 or 1) for the correlation to be significant.” (Sedgewick, 2014, p. 2). This is to say that any significant correlation statistic will carry a greater trust, or truth, as it approaches the outer ends of the scale of -1 or 1 . If the characteristics of the study sample and previous sample are found to be comparable, combining the data into one set ($n=130$) will increase the level of confidence in the results of the Spearman correlation coefficient.

Pearson's correlation

According to the literature search (see Table 2.1, page 27) Pearson's correlation is the third most commonly used parametric statistics used by researchers of user satisfaction. If the data for this research follows a normal distribution, Pearson's correlation will be used to analyse the data.

Pearson's correlation measures the strength of the linear relationship between two observations. As with the Spearman's correlation, the relationships can be either positive or negative, strong or weak, and significant or not significant. The statistic reported for Pearson's correlation ranges from -1 to 0 to 1 (-1 indicating a perfect negative linear relationship between the variables, 0 indicating no relationship, and 1 which indicates a perfect positive linear relationship). Similarly, as significance values with Spearman's correlation, values lower than the critical P value indicate that the correlation was unlikely to have happened by chance (LoBiondo-Wood, G., Haber, J., 2013).

Analysis Software

Microsoft Excel 2016 was used to compile the descriptive statistics and perform the chi-square tests. The analysis software **R** was used to perform Spearman's rank correlation. **R** automatically performs the Holm correction with large datasets. The Holm correction applies a sequential, mathematical, algorithm that produces a more conservative P value. This more conservative P value, when applied to Spearman's rank correlation, reduces the possibility of reporting statistical significance. Reducing the possibility of incorrectly reporting statistical significance adds confidence to the reported statistic (Holm, S., 1979).

Chapter Summary

Ethical approvals for the research were completed by 17 August 2015. There were three research questions: what was the current state of C-HOBIC user satisfaction, has user satisfaction changed over the previous 20 months, and do user demographics correlate to user satisfaction. The approach, evaluation research, incorporated 12 questions from a previous online questionnaire (the previous survey) and sampled the same pool of potential participants who were users of C-HOBIC from St. Boniface Hospital in Winnipeg, Manitoba. This research (the current survey) was available online for five weeks; the last day to participate in the survey was 02 October 2015. A data-cleaning process aligned the data from the two sets of data (previous and current). Alignment of the two data sets allowed summative, comparative, and combined analysis. The analysis included tests for normality (Shapiro-Wilk), sums (descriptive statistics), comparisons between the two samples (chi-square test for independence), and monotonic alignment for demographics and user satisfaction using a combined dataset (n=130) (Spearman's rank correlation). Microsoft Excel 2011 for Mac, Microsoft Excel 2016, and the statistical analysis software **R** was used to analyze the data.

Results

Introduction

This chapter reports on the survey response rates, a discovery during the data cleaning process and the statistical analysis of the data. Following the data summaries, this chapter reports the normal distribution values of the data, the chi-square test for independence between the two datasets, and the Spearman's rank correlation of the combined datasets.

Response Rates

Fifty-nine participants, from a potential pool of 700 clinicians, answered each question on the previous survey resulting in a completion rate of 8%. The average completion time for previous participants was 12 minutes and 32 seconds. Seventy-one participants, from the same potential pool of participants, answered each question on the current survey resulting in a completion rate of 10%. The average completion time for the current participants was 10 minutes and 32 seconds.

A Discovery During the Data Cleaning

While creating the codebook, the researcher discovered an error in the survey deployment. The current survey did not include question 8C from the previous survey (“the C-HOBIC outcome measures inform my clinical practice”). Once this error was known the question 8C data was removed from the previous data set. Also, questions 8A, 8B, 8D, and 8E in the current survey included a sixth possible answer (‘neutral’—see Appendix F). For the analysis, eliminating question 8C in the previous survey data, and combining the ‘neutral’ and

‘do not know’ responses in the current survey aligned the survey data sufficiently for the current research.

Descriptive Statistics

As seen in Tables 4.1 and 4.2 the largest group of participants for the previous and current groups were Registered Nurses (80% and 90%, respectively) and female (88% and 93%, respectively). In the five categories of work experience, there were more current participants in the category of having 0 to 5 years of experience (44%) than in any other category. The most populous category for the previous participants were those having more than 20 years of experience (42%) (see Table 3.3). Seventy-five percent of the participants in the current study group primarily worked in acute care. Participants in the previous group had a higher representation from other areas in the hospital than the current study group (see Table 3.4).

Table 4.1

Primary position

		RN		LPN		Other	
		n	%	n	%	n	%
1. My primary position is:	Hunt	64	90	3	4.2	4	5.6
	Nagle	47	80	1	1.7	11	19

Note. Current study – n=71, previous study – n=59.

Table 4.2

Gender

		Male		Female	
		n	%	n	%
2. What is your gender?	Hunt	5	7	66	93
	Nagle	7	12	52	88

Note. Current study – n=71, previous study – n=59.

Table 4.3

Years of clinical experience

		0-5		06-10		11-15		16-20		>20	
		n	%	n	%	n	%	n	%	n	%
3. Years of clinical experience?	Hunt	31	44	11	15	8	11	3	4.2	18	25
	Nagle	16	27	9	15	3	5.1	6	10	25	42

Note. Current study – n=71, previous study – n=59.

Table 4.4

Primary work setting

		Acute		Primary		Rehab		Palliative		Other	
		n	%	n	%	n	%	n	%	n	%
4. My primary work setting is:	Hunt	53	75	1	1.4	2	2.8	7	9.9	8	11
	Nagle	17	29	9	15	3	5.1	6	10	24	41

Note. Current study – n=71, previous study – n=59.

Every participant in the previous group was familiar with the C-HOBIC outcomes. Twenty-five percent of the participants in the current group said they were not familiar with the C-HOBIC outcomes (see Table 4.5). Every participant in the previous group had the opportunity to review C-HOBIC outcomes. Twenty-eight percent of the participants in the current group had not reviewed C-HOBIC outcomes (see Table 4.6).

Table 4.5

Familiarity with C-HOBIC Outcomes

		Yes		No	
		n	%	n	%
5. I am familiar with the C-HOBIC outcomes:	Hunt	53	75	18	25
	Nagle	59	100	0	0

Note. Current study – n=71, previous study – n=59.

Table 4.6

Opportunity to Review C-HOBIC Outcomes

		Yes		No	
		n	%	n	%
6. I have had the opportunity to review the C-HOBIC outcomes.	Hunt	51	72	20	28
	Nagle	59	100	0	0

Note. Current study – n=71, previous study – n=59.

The majority of current participants agreed with the statement that the information system used for C-HOBIC outcome documentation and retrieval was accessible (70%), reliable (58%), and easy-to-use (70%). However, 46% of the current participants said the information system was not responsive. In contrast, 93% of the previous participants did not think the information system was accessible, but 68% agreed that the system was reliable, easy to use (71%), and responsive (58%) (see Table 4.7).

Table 4.7

The Information System

7. The information System used to document and retrieve C-HOBIC:		Disagree		Agree	
		n	%	n	%
a) accessible	Hunt	21	30	50	70
	Nagle	55	93	4	6.8
b) reliable	Hunt	30	42	41	58
	Nagle	19	32	40	68
c) easy to use	Hunt	21	30	50	70
	Nagle	17	29	42	71
d) responsive	Hunt	38	54	33	46
	Nagle	25	42	34	58

Note. Current study – n=71, previous study – n=59.

Nearly half of the current participants (49.9%) and 46% of the previous participants agreed that the C-HOBIC outcome measures were easy to use. Fifty-nine percent of the previous participants agreed that the C-HOBIC outcome measures were relevant to the care of patients, whereas 51% of the current participants did not agree. Fifty-one percent of the current participants did not agree that the C-HOBIC outcome measurements support clinical decision-making and 52% did not agree that the C-HOBIC outcome measurements provided valuable insights into supporting patient care transitions. Of the previous participants, 54.5% thought that the outcome measures supported clinical decision-making and 51% thought the outcome measures provided valuable insights to support patient care transitions (see Table 4.8).

Table 4.8

C-HOBIC outcome measures and support

8. C-HOBIC outcome measures:		Strong Disagree		Disagree		Neutral		Agree		Strongly Agree	
		n	%	n	%	n	%	n	%	n	%
a) are easy to use	Hunt	9	13	6	8.5	21	30	28	39	7	9.9
	Nagle	4	6.8	13	22	2	3.4	32	54	8	14
b) are relevant to the care of my patient	Hunt	14	20	22	31	15	21	16	23	4	5.6
	Nagle	10	17	12	20	2	3.4	28	47	7	12
c) support clinical decision making	Hunt	17	24	19	27	22	31	12	17	1	1.4
	Nagle	9	15	14	24	4	6.8	27	46	5	8.5
e) provide valuable insights to support patient care transitions	Hunt	17	24	20	28	20	28	13	18	1	1.4
	Nagle	8	14	13	22	8	14	23	39	7	12

Note. Current study – n=71, previous study – n=59.

Current participants did not agree that using the C-HOBIC outcomes improved documentation consistency (63%), added value to patient assessments (59%), had been easy to integrate into practice (53%), or positively influenced patient care directions (65%). The research shows that the previous participants showed no clear opinion on whether C-HOBIC outcomes added value for documentation, assessments, influencing patient care directions or being easy to integrate into practice. Previous participant opinions were more favorable to these assessments than the current participants. Both groups of participants agreed that using the C-HOBIC outcome assessment tool and retrieving C-HOBIC outcomes added to their workload (previous participants – 77%, current participants – 85%) (see Table 4.9).

Table 4.9

C-HOBIC outcomes and added value

9. Using C-HOBIC outcomes has:		Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
		n	%	n	%	n	%	n	%	n	%
a) improved the consistency of documentation	Hunt	20	28	25	35	10	14	14	20	2	2.8
	Nagle	9	15	18	31	5	8.5	23	39	4	6.8
b) added value to the assessments of my patients	Hunt	18	25	24	34	7	9.9	21	30	1	1.4
	Nagle	8	14	21	36	4	6.8	21	36	5	8.5
c) been easy to integrate into my practice	Hunt	13	18	25	35	5	7	25	35	3	4.2
	Nagle	8	14	22	37	3	5.1	19	32	7	12
d) positively influenced patient care directions	Hunt	19	27	27	38	9	13	13	18	3	4.2
	Nagle	9	15	18	31	8	14	20	34	4	6.8
e) Increased my workload	Hunt	1	1.4	5	7	4	5.6	33	46	28	39
	Nagle	0	0	9	15	5	8.5	18	31	27	46

Note. Current study – n=71, previous study – n=59.

The current participants did not agree that having access to C-HOBIC outcomes supported the improvement of: patient care planning (64%), the coordination of care (60%), improvements in the provision of good interventions (59%), or the participation of family and patient in care planning (61%). Although the support for these measures was less of the current participants when compared to the previous participants, the previous participants again showed no clear opinion on whether they agreed or disagreed with the effectiveness of the C-HOBIC outcome measures in these areas (see Table 4.10).

Table 4.10

Access to C-HOBIC outcomes and improves care planning

10. Access to C-HOBIC information:		Strong		Disagree		Neutral		Agree		Strongly	
		n	%	n	%	n	%	n	%	n	%
a) has improved patient care planning	Hunt	19	27	26	37	7	9.9	17	24	2	2.8
	Nagle	9	15	15	25	8	14	23	39	4	6.8
b) improves patient care coordination.	Hunt	18	25	25	35	14	20	13	18	1	1.4
	Nagle	9	15	18	31	10	17	19	32	3	5.1
c) improved the provision of good interventions	Hunt	17	24	25	35	14	20	13	18	2	2.8
	Nagle	10	17	16	27	9	15	21	36	3	5.1
d) has supported family/patient participation in care planning	Hunt	19	27	24	34	12	17	14	20	2	2.8
	Nagle	9	15	18	31	9	15	19	32	4	6.8

Note. Current study – n=71, previous study – n=59.

Sixty-five percent of the current participants were less likely to continue accessing the C-HOBIC information than were the previous participants (39%) (see Table 4.11). Three times more current participants than previous participants (current participants – 42%, previous participants – 14%) would not recommend the use of C-HOBIC to others (see Table 4.12).

Table 4.11

The likelihood of continuing to access C-HOBIC information

		Yes		No	
		n	%	n	%
11. I am likely to continue accessing C-HOBIC information.	Hunt	25	35	46	65
	Nagle	36	61	23	39

Note. Current study – n=71, previous study – n=59.

Table 4.12

On recommending C-HOBIC to others

		Would		Would not	
		n	%	n	%
12. I would recommend using the C-HOBIC outcomes to others.	Hunt	41	58	30	42
	Nagle	51	86	8	14

Note. Current study – n=71, previous study – n=59.

Shapiro-Wilk Test

Neither dataset, analyzed with the Shapiro-Wilk test, followed a normal distribution (see Table 4.13). The non-parametric qualities of the data meant that the next choices for statistical testing would be nonparametric tests as shown in Table 2.1. The tests chosen were chi-square test for independence (to measure differences between expected and observed values), and Spearman's rank correlation (to analyze the association between two observations).

Table 4.13

Shapiro-Wilk test

Question	p-value	
	Hunt	Nagle
1	3.03E-16	5.25E-13
2	6.22E-17	3.06E-14
3	3.12E-09	4.69E-08
4	4.94E-13	1.16E-12
7a	4.65E-13	2.23E-15
7b	3.93E-12	9.38E-12
7c	4.65E-13	9.38E-12
7d	5.24E-12	7.77E-11
8a	2.63E-06	3.32E-07
8b	3.07E-05	5.72E-07
8d	1.41E-05	2.54E-06
8e	1.32E-05	3.57E-05
9a	1.50E-06	7.20E-06
9b	3.10E-07	9.25E-06
9c	5.23E-07	7.02E-06
9d	1.30E-06	3.83E-05
9e	2.91E-09	3.81E-08
10a	6.14E-07	1.27E-05
10b	4.34E-06	4.25E-05
10c	8.20E-06	1.86E-05
10d	3.51E-06	4.35E-05
11	1.52E-12	5.57E-11
12	3.93E-12	6.51E-14

Note. Current study – n=71, previous study – n=59.

Chi-square Test

A chi-square test of independence was performed to examine the relation between the two groups' response to each question in the survey. Some of the data did not meet the required

criteria (no more than 20% of the expected counts are less than five, and all individual expected counts are one or greater). Table 4.14 displays the statistically significant test values. The groups had a statistically different reaction to having familiarity with, and having reviewed, C-HOBIC outcomes in a clinical setting. Also, the two groups had a statistically different reaction to all the questions concerning the information system (7a:7d). Questions about the C-HOBIC outcome measures being relevant to patient care, supporting clinical decision-making, and providing valuable insights to patient care transition, also drew different reactions from the two groups of participants. Finally, the reactions between the two groups when asked if they would continue to access the C-HOBIC outcomes and whether they would recommend it to others were also significantly different.

Table 4.14

Chi-square analysis between participant groups - statistically significant values

Question	α	df	χ^2	p-value
5	0.05	1	17.3617	<0.0001
6	0.05	2	69.7397	<0.0001
7a	0.05	1	22.2258	<0.0001
7b	0.05	1	16.9453	<0.0001
7c	0.05	1	41.1522	<0.0001
7d	0.05	1	4.2363	0.0396
8b	0.05	4	16.6740	0.0022
8d	0.05	4	23.2070	0.0001
8e	0.05	4	16.1760	0.0028
11	0.05	1	4.5812	0.0396
12	0.05	1	31.8380	<0.0001

Note. Current study – n=71, previous study – n=59.

Spearman Rank Correlation with Holm's Correction

The statistical software **R** sets the default alpha levels for Spearman's correlation at 0.05. The literature search revealed that sample sizes of less than 150 for this correlation, even if the statistic is significant, tends to hold more trust for the interpretation as the correlation statistic approaches the outer end of the scale (-1 to 1). As can be seen in the results and the accompanying tables that follow, there was a wide range of correlation statistics produced. Therefore, statistically significant correlations that have small values close to zero do not carry as much trust as statistically significant correlations that have values closer to 1 or -1.

Using Spearman's correlation with the combined datasets (n=130), the author examined the strength of the monotonic relationship between all pairs of participant answers from the surveys. Question 9e (Using C-HOBIC outcomes increased my workload) had a significant (p=0.03) negative correlation with question 8d (C-HOBIC outcome measures support clinical decision-making) and a highly significant (p=0.0007) negative correlation with question 8e (C-HOBIC outcome measures provide valuable insights to patient care transitions). With the exception for question 9e and those relationships just mentioned, the Spearman's correlation determined all other questions have highly significant positive correlations with each other (see Table 4.15).

Significant Spearman correlations between C-HOBIC survey questions.

Note. N=130, $\alpha=0.05$.

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10a (C-HOBIC positively influences care directions and improves patient care planning), and gender.

Table 4.16

Significant Spearman correlation for participant demographics and questions 8c, 8d, 9c, and 10a

Participant demographic:		Position	Gender	Experience	Setting
9c) were easy to integrate into practice	r_s	-0.058	-0.145	-0.292	-0.172
	p-value	1.000	1.000	0.023	0.802
9d) positively influenced patient care directions	r_s	-0.113	-0.291	-0.269	-0.146
	p-value	1.000	0.023	0.054	1.000
10a) Improved Pt. Care Planning	r_s	-0.087	-0.272	-0.181	-0.152
	p-value	1.000	0.038	0.548	0.843

Note. N=130, $\alpha=0.05$.

Chapter Summary

The Likert-style answers to the survey questions produced discrete, categorical, and ordinal data. The raw data from the previous survey was obtained and used for this research. By first creating two aligned datasets for separate and comparative analysis, then combining the two datasets, separate, comparative and combined analysis was possible. Excel and the analysis software **R** were used for data analysis. A Shapiro-Wilk test determined none of the data follow a normal distribution. Guided by the literature review, descriptive statistics were used to describe the data sets and the tests used for analysis were a chi-square test for independence and Pearson's rank correlation.

The analysis showed that current participants were satisfied with the St. Boniface information system and dissatisfied with the ability of the C-HOBIC assessment tool to assist clinicians in patient care planning and documentation. Overall user satisfaction with the C-HOBIC assessment tool was rated higher in the previous group as compared to user satisfaction in the current group. C-HOBIC positively influencing patient care directions and C-HOBIC outcomes improving patient care planning were weakly, but significantly, correlated with gender. There was a weak, significant, correlation between years of a participant's clinical experience and the ease of integrating C-HOBIC into practice.

Chapter 5: Discussion

Introduction

The purpose of this thesis was to research nurses' use and satisfaction with the C-HOBIC assessment tool at St. Boniface Hospital in Winnipeg Manitoba. Participants in the research accessed an online questionnaire and provided answers to questions about their demographics, the area of the hospital they worked in and answers specific to the use of the C-HOBIC assessment tool and C-HOBIC patient outcomes. This chapter presents a discussion of the key results of the research, implications for clinicians and future investigations of the C-HOBIC assessment tool, the strengths, and limitations of this research, and conclusions about what the research might mean.

Key Findings

This research employed a similar online questionnaire design for data collection, and analysis strategies as previous research 20 months earlier. The Likert-style data from both surveys was used to compare participant responses. The non-normally distributed data was analyzed using statistical tests that did not require normally distributed data.

Overall, there were more users in both groups that were less satisfied with the C-HOBIC assessment tool. Many participants from both studies agreed that their workload had increased because of the incorporation of the assessment tool into their workflow. User satisfaction was lower than that of the participants from 20 months earlier. The current participants still found value in C-HOBIC patient outcomes in two areas: the information system was accessible and easy to use; and about half said the C-HOBIC outcomes were easy to use. The correlation analysis showed that an inverse relationship existed between workload and using C-HOBIC

outcomes for making clinical decisions, and helping patients with their transitions through the health system. Participants valued the way C-HOBIC outcomes supported clinical decision-making and gave valuable insights into patient care transitions even though these activities increased workload.

Clinicians who participated in this research, as compared with clinicians who participated in the research 20 months earlier, were less familiar with C-HOBIC outcomes and had less opportunity to review C-HOBIC outcomes, and were less satisfied with having to use the C-HOBIC assessment tool. Every previous participant was familiar with C-HOBIC outcomes and had reviewed them in a clinical setting. In contrast, only three-quarters of the current participants were familiar with the C-HOBIC outcomes and less than that had reviewed C-HOBIC outcomes in a clinical setting. This finding is a surprise, given that the use of C-HOBIC is mandated and the agreement to participate clearly states that having used C-HOBIC was a requirement to participate.

Implications for Clinicians

While the research does not indicate why participants in the current group knew less about the C-HOBIC patient outcomes (and where to find them) than participants in the previous group, it does indicate that clinical awareness of C-HOBIC among survey participants was decreasing. Participants with more than 20 years of clinical experience dropped from 42% to 25% in the twenty months between surveys (Table 4.3). At the same time, participants with zero to five years of experience rose from 16% to 31%. Even considering the limitations of the small convenience samples, this indicates there was a sizeable turnover of staff between the previous and current studies. Perhaps a loss of experienced mentors contributed to the drop in awareness of C-HOBIC outcomes. Updating clinician's professional development and educational needs for

the use of C-HOBIC might be considered as a corrective measure. As well, it may be appropriate for the clinical staff education departments to revisit the C-HOBIC education strategies for new staff orientations and subsequent follow-up.

The previous evaluation had two recommendations concerning the C-HOBIC application design: “Identify opportunities for the elimination of redundant clinical documentation”; and “Provide sites with guidelines regarding the integration of C-HOBIC into clinical documentation systems” (Canadian Nurses Association, 2015, January, p. 29). Before the second evaluation, the clinical oversight team at St. Boniface Hospital also expressed concerns that C-HOBIC was capturing similar data to that of other patient assessment tools (St. Boniface Hospital, 2015a, June). Comments from some participants in the current survey (Appendix G) confirmed that redundant data capture was a concern for clinicians and is one reason C-HOBIC adds to the workload.

Clinicians are supposed to use the C-HOBIC assessment tool twice to assess patients; once on admission and again at discharge. From a clinical perspective, C-HOBIC outcomes add value to planning initial patient care. The majority of participants from both groups agree that the outcome measures were easy to use. However, most current participants stated that using the C-HOBIC outcomes did not support clinical decision-making, add value to patient assessments, positively influence patient care directions, or improve patient care planning. Given that clinicians in this acute-care setting can only use the C-HOBIC outcomes once, this is not a surprising finding. Initial outcomes cannot be used to update future patient care plans, nor can they be used to indicate a patient’s progression towards discharge. The status of the patient’s health can change quickly in acute care. Without other assessments to compare with, any one-time assessment will lose value.

There were significant and moderately negative correlations between gender and 1) influencing patient care directions, and 2) patient care planning. There was also a significant and moderately negative correlation between the years of clinical experience and the perceived easiness of incorporating C-HOBIC into practice. For clinicians and educators, the correlation may indicate that young nurses and male nurses may be more comfortable using this assessment tool. However, with the small size of this convenience sample, even when combining the two data sets, the results for this correlation are difficult to generalize beyond the previous and current participants

Concerning the applicability of the C-HOBIC dataset, recommendations arising from the previous survey were "... implementation guidelines should clearly identify the clinical populations for which C-HOBIC is intended" (Canadian Nurse Association, p. 12, January, 2015). According to participants from the previous survey, using C-HOBIC to assess critical-care and short-stay patients did not make sense. Additionally, the previous study indicated that the addition of C-HOBIC might not enhance other assessments used for medical-surgical patients. The compliance records supplied for this research did not include C-HOBIC information from ICU or short stay surgery units, suggesting there was a follow-up for the recommendations for applicability of the C-HOBIC dataset.

Implications for Future Research

The research provided answers for all three research questions. The analysis shows that more participants' rate of user satisfaction for C-HOBIC as low, user satisfaction for C-HOBIC was lower than it was 20 months previous and that gender and clinical experience have a moderate association with user satisfaction. This research was not intended to answer the question of why a state of user satisfaction existed.

The research shows that most of the participants did not find the C-HOBIC assessment tool and associated outcomes valuable for patient care. There are two clinical activities that may explain why this is so. First, patient data from other assessment applications at St. Boniface Hospital does not populate data fields in the C-HOBIC assessment tool or C-HOBIC patient outcomes. Because cross-population of data between programs within the electronic health record does not happen, clinicians spend time away from patient care re-entering patient data. Second, while C-HOBIC can produce a rich understanding of patient progress by using multiple patient outcome assessments, the only assessment that clinicians use is the first assessment—the admission assessment. This singular assessment limits the use of C-HOBIC outcomes to the initial patient care planning. Without a second set of outcomes for comparison, outcomes from the first assessment becomes less valuable over time for updating the patient care plan.

There is much to learn about the per unit implementation and use of the C-HOBIC assessment tool at St. Boniface Hospital. We do not know, for example, how clinicians used the outcomes, or if each hospital unit used the same standard procedure for using the C-HOBIC assessment tool. Data analysis from this research does not help us understand why, partly because the compliance records in Figure 1 came with no context. It is clear from looking at the figure that the C-HOBIC assessment tool was used in some manner on those hospital units, but with no context, there is little else to learn from the figure. Future research into compliance should include exploring how clinicians on each hospital unit use the C-HOBIC assessment tool, and how clinicians use the C-HOBIC outcomes.

The survey completion rates were low for this and the previous research on C-HOBIC user satisfaction—8% for the previous research and 10% for this research. Completion rates in future investigations might be higher if the deployment of the survey was part of the participant's

regular shift. In other words, instead of being asked to complete the survey on their own time (as was the request with the current survey) participants might be asked to complete the survey as part of the regular shift.

The time stated to complete the survey (estimated at ten to thirty minutes) may have affected a potential participant's decision to take the survey. The researcher did not have the previous data before making the poster or completing the participation for consent. The time to complete this survey, now field-tested twice, was less than what was first estimated. Future evaluations using the same instrument can state that the survey will take approximately 10 to 12 minutes to complete (not the 30-minute time frame mentioned in the consent).

The differences between the previous and current participants were not statistically significant, but the previous group attracted a wider variety of clinicians—more men, more nurses with more clinical experience, and more participants from different work settings. Considerations for the sample selection methods should recruit a wider variety of clinicians who use the C-HOBIC assessment tool. Including a wider demographic for future analysis of user satisfaction with the C-HOBIC assessment tool would allow greater generalization of the results.

Limitations

The method of convenience sampling and the small sample size for the current survey, approximately 10% of the potential participants, are limitations of this research. The literature supports the notion that convenience sampling introduces bias into research. It is reasonable, for example, to think that people who like participating in surveys were more likely to participate in this survey. Clinicians may have used the survey as a forum to express dissatisfaction with the C-HOBIC tool, the workload in general, or some other reason. The small sample size, the non-normally distributed data, and the non-probability method of sampling do not support

generalization of the results. This research reveals something about the participants who took part in the survey but does not represent approximately 90% of C-HOBIC users at St. Boniface Hospital. What can be said is there is a small group of clinicians at St. Boniface Hospital who are not satisfied using the C-HOBIC assessment tool or the C-HOBIC patient outcomes.

The instrument used for this research has face validity (having been designed by experts who reviewed and verified the content). Also, the high correlation values between questions eight through ten demonstrate intra-rater reliability—there as consistency between the questions. However, the researcher did not test the instrument for construct validity, internal consistency stability. The inability to report these criteria is a research limitation. Testing this instrument, or developing a new instrument to assess the use of C- HOBIC could help future research in several ways. First, a new instrument could expand the breadth of questions to gather data on how C-HOBIC outcomes are (updating care plans, tracking patient progress, and improving clinician-to-clinician reporting for patient status). Also, new instrument development would allow for a psychometric evaluation of reliability and validity, reportable in future research.

The premise of the research was to replicate an original online survey and compare the two sets of data. After the current survey had closed for participation, it was discovered that question 8C (Do C-HOBIC outcomes inform my clinical practice?) had not been included in the survey (see Appendix F) creating a research limitation. Once the omission of question 8C from the current survey was known, the question 8C data from the previous survey was removed prior to analysis. While the original survey was not replicated exactly, the previous and current research data that was analysed came from the same questions. Removing the question 8C data does not limit our understanding of the participants' user satisfaction with the C-HOBIC assessment tool. Except for answers to the question of workload, the correlation analysis (Table

4.15) shows a highly significant tendency for all participants to answer questions about C-HOBIC in a similar manner. The analysis of the data shows there were more users in both groups that were less satisfied with the C-HOBIC assessment tool than users who were satisfied. In addition, it has been shown that the study results cannot be generalized to the population of C-HOBIC users at St. Boniface Hospital. The limitation means we cannot analyse question 8c data.

Conclusion

Research has shown that the activities of nurses directly influence C-HOBIC patient outcomes. Currently, a gap exists between gathering healthcare information and using that information to support clinicians in the care of their patients (White, 2016). Using SNLs could provide the means to "...evaluate nursing and health care effectiveness across patient or populations and settings." (Daly, Maas and Johnson, p. S85, 1997). Nagle and White (2013, p. 93) said about HOBIC "It has been designed as the foundation for a common set of outcomes, to enable consistent monitoring and measurement throughout care trajectories and allow nurses to detect positive or negative changes in patients/clients over time." However, the usability gap for clinicians remains for this C-HOBIC implementation at St. Boniface Hospital. Using the outcomes only once for direct patient care means there is no clinical opportunity to monitor or measure patient outcomes over time in this acute-care setting.

Data gathered for admission and discharge outcomes holds value for administration regarding planning for human resources, clinical education needs, and policy updates. Future implementations of C-HOBIC where clinicians use the assessment tool at least once every 24 hours, would give administrators more consistent, accurate, and reliable data on patient progress in an acute application of the assessment tool. Increasing the available amount of C-HOBIC

outcome data could lead to a better understanding of the relationship between care delivery and patient outcomes in acute care. Beyond increasing the administrative value of having more patient outcome data, more data will allow better tracking of individual patient progress.

Incorporating C-HOBIC into the Information System may help mitigate issues of users not being able to find the data. As stated in the previous survey evaluation, revisiting the guidelines for integrating clinical documentation at St. Boniface into a more streamlined service is a consideration. It may be possible to populate parts of the C-HOBIC assessment tool with other concurrent assessment data within the EHR. If concurrent patient assessment data did populate parts of the C-HOBIC assessment tool, clinicians might not feel they were collecting the same data twice, and user satisfaction would increase.

Successive C-HOBIC outcome reports can potentially give nurses an immediate update on the efficacy of the nursing care they provide. One of the key lessons learned from the phase one implementation of C-HOBIC was that the information system was not giving the nurses feedback in real time (Hannah, et al., 2009). Most participants in this research indicated that C-HOBIC was not giving them feedback. If the scope for future C-HOBIC assessment tool implementations in acute care remains as it was for the implementation at St. Boniface Hospital, future evaluations for user satisfaction with C-HOBIC will likely remain the same. Changing the implementation scope to included more frequent C-HOBIC assessments and helping clinicians find and use the patient outcomes would likely increase the value of the assessment outcomes and automatically increase user satisfaction.

The usefulness and viability of the C-HOBIC assessment tool, as seen through the lens of the clinician, will improve with changes to the goals and scope of future implementations. The first of these changes would be that clinicians could use the assessment tool and the outcomes at

their discretion. A wider discretion for the clinical use of the C-HOBIC assessment tool would accomplish two things, 1) clinicians would feel that this is their tool, and 2) clinicians could compare outcomes in real time. The second change is to have technical and clinical design teams empower the clinician with the ability to produce a text based report or generate a graph of successive C-HOBIC outcomes. The ability to produce a meaningful report on demand will be valuable to clinicians. As well, the technical implementation teams should ensure that patient assessment data cross-populates patient outcome displays in the electronic health record. Cross-populating C-HOBIC data with other EHR programs would increase the functionality of the C-HOBIC assessment. The goal for future implementations should be to make the C-HOBIC assessment tool easy-to-use, easy to understand, and useful for clinicians.

Chapter Summary

The three research questions were: a) what is user satisfaction regarding the C-HOBIC assessment tool at St. Boniface Hospital 20 months after implementation, b) has user satisfaction changed since the first evaluation at St. Boniface Hospital 20 months before, and c) do users of C-HOBIC have characteristics that correlate with user satisfaction? All three research questions were answered in chapter four and further discussed in this chapter. Participants in this research were less knowledgeable and less satisfied with the use of the C-HOBIC assessment tool and patient outcomes than participants from a similar study 20 months earlier. There was a significant correlation between gender and questions about patient care planning and care directions. As well, there was a significant correlation between experience and how easy it was to incorporate C-HOBIC into practice. A reduced knowledge of C-HOBIC and resulting patient outcomes, redundant data capture and the scope of the implementation were part of the analysis and discussion of the user satisfaction for C-HOBIC. Future research for user satisfaction with

the C-HOBIC assessment tool would benefit from a larger sample, a nonprobability sampling method, and a new psychometrically evaluated instrument. Allowing clinicians to use the C-HOBIC assessment tool at their discretion, giving the clinicians an easy way to display patient outcomes, and ensuring that patient assessment data is not duplicated in other assessment programs, will increase user satisfaction.

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Appendix A

Common Standardized Nursing Languages

Name	Interface Terminology	Minimum Data Set	Reference Terminology
ABC codes	X		
CCC	X		
ICNP	X		X
LOINC			X
NANDA	X		
NIC	X		
NMDS		X	
NMMDS		X	
NOC	X		
Omaha system	X		
PNDS	X		
SNOMED-CT			X
PCDS (retired)		X	

(Nursingworld.org., 2012)

Names and descriptions of Standardized Nurse Languages

Name	Description
ABC codes	A minimum data set used for billing or coding of over 4500 healthcare products and services (including nursing interventions) (ABC coding solutions, n.d.).
CCC (Clinical Care Classification)	Initially developed as the Home Health Care Classification (HHCC) to provide a method for predicting resource needs and patient outcomes. The CCC captures this documentation for computerized records (Saba & Taylor, 2007).
CHOBIC (Canadian Health Outcomes for Better Information and Care)	C-HOBIC assessment tool represents nursing sensitive patient information related to patient outcomes in the EHR (Hannah, White, Pringle, 2009).
ICNP (International Classification of Nursing Practice)	Classification system for Nursing diagnoses, interventions, and outcomes. Developed by the International Council of Nurses (Jones, Keenan, & Moorhead, 2010).
LOINC (Logical Observation Identifiers Names and Codes)	A coding system for laboratory and clinical values (LOINC.org, n.d.)
NANDA-I (Formerly known as NANDA)	This is a taxonomy for nursing diagnoses (Jones, Keenan, & Moorhead, 2010).
NIC (Nursing Interventions Classification)	This is a classification for nursing interventions (Jones, Keenan, & Moorhead, 2010).
NMDS (Nursing Minimum Data Set)	Nursing clinical data elements
NMMDS (Nursing Management Minimum Data Set)	Administrative data elements
NOC (Nursing Outcomes Classification)	This is a classification for nursing outcomes. (Jones, Keenan, & Moorhead, 2010).
Omaha system	A system developed for classifying nursing language in home, public, and school health care (Conrad & Schneider, 2011).
PCDS (retired) (Patient Care Data Set)	A data set that was used to record a patient's medical and health history in an electronic health record (Daly, Maas, & Johnson, 1997).
PNDS (Perioperative Nursing Data Set)	This data set specifies diagnoses interventions and outcomes specific for perioperative nurses. (Jones, Keenan, & Moorhead, 2010).
SNOMED-CT (Systematic Nomenclature of Medicine-Clinical Terms)	This is a reference terminology that allows cross mapping between multiple clinical languages ((Jones, Keenan, & Moorhead, 2010).

(Nursingworld.org., 2012)

Appendix B

C-HOBIC assessment data elements for four outcomes

Outcome	Associated Assessment Data Elements	
Functional status and Continence	Bathing	1
	Personal hygiene	2
	Walking	3
	Transfer toilet	4
	Toilet use	5
	Bed mobility	6
	Dressing	7
	Eating	8
	Bladder continence	9
Symptoms	Pain frequency	10
	Pain intensity level	11
	Fatigue	12
	Dyspnea	13
	Nausea	14
Safety	Falls	15
	Pressure ulcers	16
Therapeutic self-care	Knowledge of current medications	17
	Knowledge about why you are taking current medications	18
	Ability to take medications as prescribed	19
	Recognition of changes in body (symptoms) related to health	20
	Carry out treatments to manage symptoms	21
	Ability to do everyday things like bathing, shopping	22
	Someone to call if help is needed	23
	Knowledge of whom to contact in case of a medical emergency	24

(Canadian Nurses Association, 2015)

Appendix C

Survey Questions (current survey)

1. **My primary position is:**
 - a. Registered Nurse
 - b. Licensed Practical Nurse
 - c. Registered Psychiatric Nurse
 - d. Nurse Practitioner
 - e. Clinical Care Coordinator
 - f. Case Manager
 - g. Primary Care Physician
 - h. Dietitian
 - i. Physiotherapist
 - j. Occupational Therapist
 - k. Social Worker
 - l. Other (please specify) [comment space is provided]
2. **What is your gender?**
 - a. Male
 - b. Female
 - c. Other (please specify) [comment space is provided]
3. **Years of the clinical experience?**
 - a. 0 – 5
 - b. 6– 10
 - c. 11 – 15
 - d. 16 – 20
 - e. > 21 years
4. **My primary work setting is:**
 - a. Acute care
 - b. Homecare
 - c. Long-term care
 - d. Primary care
 - e. Complex Continuing Care
 - f. Rehabilitative care
 - g. Palliative care
 - h. Convalescent care
 - i. Emergency Department
 - j. Other (please specify) [comment space is provided]
5. **I am familiar with the C-HOBIC outcomes:**
 - a. yes
 - b. no

6. **I have had the opportunity to review patients C-HOBIC outcomes in the following settings** (choose all that apply):
- a. NONE AT ALL
 - b. Acute-care
 - c. Home care
 - d. Primary care
 - e. Complex Continuing Care
 - f. Rehabilitative care
 - g. Palliative care
 - h. Convalescent care
 - i. Emergency Department
 - j. Other (please specify) [comment space is provided]
7. **The information system used to document and/or retrieve the C-HOBIC outcome is** (choose one of the four available responses):
- a. **Accessible:** strongly disagree | disagree | agree | strongly agree
 - i. Any comments? [comment space is provided]
 - b. **Reliable:** strongly disagree | disagree | agree | strongly agree
 - i. Any comments? [comment space is provided]
 - c. **Easy to use:** strongly disagree | disagree | agree | strongly agree
 - i. Any comments? [comment space is provided]
 - d. **Responsive:** strongly disagree | disagree | agree | strongly agree
 - i. Any comments? [comment space is provided]
8. The following statements relate to the collection and use of the C-HOBIC outcomes (e.g., Functional status, continence, symptoms, falls, skin breakdown, & therapeutic self-care). **The C-HOBIC outcome measures** (choose one of the five available responses):
- a. **Are easy to use:**
strongly disagree | disagree | agree | strongly agree | don't know
 - i. Any comments? [comment space is provided]
 - b. **Are relevant to the care of my patients:**
strongly disagree | disagree | agree | strongly agree | don't know
 - i. Any comments? [comment space is provided]
 - c. **Inform my clinical practice:**
strongly disagree | disagree | agree | strongly agree | don't know
 - i. Any comments? [comment space is provided]
 - d. **Support clinical decision-making:**
strongly disagree | disagree | agree | strongly agree | don't know
 - i. Any comments? [comment space is provided]
 - e. **Provide valuable insights to support patient care transitions:**
strongly disagree | disagree | agree | strongly agree | don't know
 - i. Any comments? [comment space is provided]

9. **Using the C-HOBIC outcomes has** (choose one of the five available responses):
- a. **Improved the consistency of clinical documentation:**
strongly disagree | disagree | agree | strongly agree | don't know
i. Any comments? [comment space is provided]
 - b. **Added value to the assessment of my patients:**
strongly disagree | disagree | agree | strongly agree | don't know
i. Any comments? [comment space is provided]
 - c. **Been easy for me to integrate into my practice:**
strongly disagree | disagree | agree | strongly agree | don't know
i. Any comments? [comment space is provided]
 - d. **Positively influenced patient care directions:**
strongly disagree | disagree | agree | strongly agree | don't know
i. Any comments? [comment space is provided]
 - e. **Increased my workload:**
strongly disagree | disagree | agree | strongly agree | don't know
i. Any comments? [comment space is provided]
10. **Access to patients C-HOBIC outcome information has** (choose one of the five available responses):
- a. **Improved patient care planning:**
strongly disagree | disagree | agree | strongly agree | don't know
i. Any comments? [comment space is provided]
 - b. **Improved patient care coordination:**
strongly disagree | disagree | agree | strongly agree | don't know
i. Any comments? [comment space is provided]
 - c. **Improve the provision of appropriate interventions:**
strongly disagree | disagree | agree | strongly agree | don't know
i. Any comments? [comment space is provided]
 - d. **Supported patient/family participation in care planning:**
strongly disagree | disagree | agree | strongly agree | don't know
i. Any comments? [comment space is provided]
11. **I am likely to continue to access the C-HOBIC outcome information from our patients:**
- a. Yes
 - b. No
 - c. Why or why not? [comment space is provided]
12. **I would recommend the C-HOBIC outcomes for use** (check all that apply):
- a. By my colleagues
 - b. In other clinical settings
 - c. In other provinces
 - d. As informational support to patients and families
 - e. Other (please specify) [comment space is provided]

Appendix D

Participant agreement to participate

Implied Consent

[The following text appears on the first page of the online survey]

Implied Consent for participation

You may copy and print this page for your records. You may also email the researcher for a copy of this page. alhunt@uvic.ca

Contacts:

You are invited to participate in a study entitled “**An evaluation of health professionals’ use of and satisfaction with the CHOBIC tool at St. Boniface Hospital in Winnipeg**”. The research is being conducted by Al Hunt, a double Master’s student at the University of Victoria School of Nursing.

If you have further questions regarding this study you may contact:

Al Hunt at alhunt@uvic.ca.

Human Research Ethics Office at the University of Victoria (250-472-4545 or ethics@uvic.ca), to verify the ethical approval of this study or raise any concerns you might have.

Purpose and Objectives:

The purpose of this research is to evaluate the satisfaction of users of an electronic tool (C-HOBIC) for documenting in an electronic health record.

Importance of this Research:

Research of this type is important because nursing practice informed by evidence is a professional standard in any area of interest. Tools such as C-HOBIC give nurses up to date information about their patients’ outcomes. Development of tools, like C-HOBIC, is vital to the development of nursing. We believe that C-HOBIC is an effective assessment tool. This survey will help us understand if the users of C-HOBIC think so, too. The knowledge gained from this research will add to nursing knowledge: Nurses understanding of the relationship between patient outcomes and clinical skills will grow; Educators can target specific areas for improving clinical competence; Healthcare organisations can effect better planning based on high-value and low-cost patient outcome data.

Participants Selection:

You are being asked to participate in this study because you are a registered nurse or other clinician employed at St. Boniface Hospital in Winnipeg, Manitoba, Canada, and you are a user of the C-HOBIC assessment tool.

What is involved:

If you consent to voluntarily participate in this research, you must click on a “**I consent to participate**” button below before accessing the surveys. Then, you need to complete the survey questionnaires by clicking the “**Submit**” button. Completing the surveys will not take more than 10-30 minutes of your time. Data will be collected using FluidSurveys, a web-based survey platform. As you may know, the web-based survey we are using, FluidSurveys was acquired by US-based Survey Monkey in 2014. The UVic Privacy Office is in the process of determining whether data will or may be accessed from the US by Survey Monkey personnel. Until the access of data has been clarified, please be informed that there is a possibility that information about you that is gathered for this study may be accessible from the U.S. and thus

may also be accessed without your knowledge or consent by the U.S. government in compliance with the U.S. Patriot Act. Please be advised that information about you that is gathered for this research project will be anonymous and confidential. Study results will be reported as a group and not at the individual level.

Inconvenience:

Participation in this study may cause some inconvenience to you including time to complete the survey and to recall work conditions where you used the C-HOBIC tool.

Risks:

There are no known or anticipated risks to you by participating in this research.

Benefits:

To our knowledge, there are no potential or known benefits of your participation in this study; however, there are benefits to the state of knowledge, to RNs as professionals and broadly to society.

Voluntary Participation:

Your participation in this research must be completely voluntary. You must click on the **“I consent to participate”** button at the bottom of this page to access the survey. Clicking on this button implies that you give your consent to participate in this research. If you decide to participate, you may withdraw at any time (i.e., you answer only a part of the survey) without any consequences or explanation. There is no data submitted for incomplete surveys. If you do participate to the study, you must respond to every question and click the **“Submit”** button at the end of the survey. Your submitted data will remain anonymous and confidential. If you withdraw from the study, after submitting the complete survey, it will be impossible to remove your data from the database, since there are no identifiers collected.

Researcher’s Relationship with Participants:

There are no relationships between researcher and participants.

Anonymity:

In terms of protecting your anonymity, the completed surveys do not include any identified information. Additionally, the results of the study will be reported as a group of participants; not at the individual level.

Confidentiality:

Your confidentiality and the confidentiality of the data will be protected by keeping them in the principal investigator’s office in a password-protected computer and in a locked drawer. The de-identified data will be kept for about five years.

Dissemination of Results:

It is anticipated that the results of this study will be shared with others in the following ways:

Thesis/Dissertation/Class presentation;

Theses are posted on “UVicSpace” and can be accessed by the public

Oral and/or poster presentations in scientific conferences and scholarly meetings;

Publications in peer-reviewed journals, chapter of a book;

Commercial Use of Results:

This research project will not lead to a commercial product or service.

Disposal of Data:

The principal investigator of this project will take responsibility for the collection, process, and management, of the collected data. Data will be in quantitative form (i.e., Likert-type responses to survey questionnaires) and will only be used for the stated research

purpose. The data will be fully anonymous without any identifying information or codes that allow the data to be re-identified. The de-identified data files will be managed, processed, archived and stored for a period of five years (to ensure that the researcher has long-term access to these data) in a secure digital password-protected form (i.e., an encrypted-password locked laptop—firewall system, power surge and virus/malicious intruder protection in place and—in the principal investigator’s locked office drawer. Access to the digital files will be controlled with encryption and/or password protection. After the period of five years, the paper files will be destroyed by deleting all the electronic files and by shredding the paper copies.

By completing and submitting the questionnaire, **YOUR FREE AND INFORMED CONSENT IS IMPLIED** and indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researcher.



I consent to participate

Appendix E

Poster

Invitation to Participate



I need your help!

Participation will be outside of your regular work hours

The research method is an online survey

There are twelve questions (some have more than one part)

The survey takes 10-30 minutes to complete

The informed consent and survey can be accessed at the link below

Survey link: <http://fluidsurveys.com/surveys/inspirenet/CHOBIC/>

For any concerns or questions contact the researcher: ahunt@uvic.ca

Hi, My name is Al Hunt. I'm a Registered Nurse and a double master's student at the University of Victoria in BC. I am conducting research to complete my thesis "An evaluation of health professionals' use of and satisfaction with the CHOBIC tool at St. Boniface Hospital in Winnipeg".

CHOBIC is an electronic tool used by nurses to record patient outcomes. More than a year ago, shortly after CHOBIC was implemented, an evaluation study was conducted to see if the implementation was successful. Now a second study is needed to corroborate those results. Every St. Boniface Hospital staff member who uses the CHOBIC assessment tool can participate in new research about using the tool. Your participation will add to the nurses knowledge base.

Please help. Without participation, I will have no data, no findings, no results.

Appendix F

Codebook for current-previous data

Question	Response Choice	Code
A Survey status:	complete	1
	incomplete	2
B Is this current or previous data?	current	1
	previous	2
C Survey status to, and including, Question 10:	complete	1
	incomplete	2
1 Primary position is:	Registered nurse	1
	Licensed practical nurse	2
	Registered psychiatric Nurse	3
	Nurse Practitioner	3
	Clinical Care Coordinator	3
	Case manager	3
	Primary care physician	3
	Dietitian	3
	Physiotherapist	3
	Occupational therapist	3
	Social worker	3
	Other	3
	Male	1
	Female	2
	Other	-
3 Years of clinical experience:	0 to 5	1
	6 to 10	2
	11 to 15	3
	16 to 20	4
	Greater than 21	5
4 My primary work setting is:	Acute Care	1
	Primary care	2
	Rehabilitative care	3
	Palliative care	4
	Complex continuing care	5
	Long-term care	5
	Homecare	5
	Convalescent care	5
	Emergency department	5
5 I am familiar with the C-HOBIC outcomes:	Other	5
	Yes	1
	No	2

6	NEW Q6: I have reviewed C-HOBIC outcomes:	No	1
		Yes	2
7	Information system used to document and or retrieve the C-HOBIC outcome is:	Strongly disagree	2
		Disagree	2
		Agree	1
		Strongly agree	1
		Strongly disagree	2
		Disagree	2
		Agree	1
		Strongly agree	1
		Strongly disagree	2
		Disagree	2
		Agree	1
		Strongly agree	1
		Strongly disagree	2
		Disagree	2
		Agree	1
		Strongly agree	1
8	C-HOBIC outcome measures:	Strongly disagree	1
		Disagree	2
		A. Are easy to use.	Do not know/neutral ²
		Agree	4
		Strongly agree	5
		Strongly disagree	1
		Disagree	2
		B. Are relevant to the care of my patients.	Do not know/neutral
		Agree	4
		Strongly agree	5
		Strongly disagree	1
		Disagree	2
		C. Informed my clinical practice ³ .	Do not know
		Agree	4
		Strongly agree	5
		Strongly disagree	1
		Disagree	2
		D. Support clinical decision-making.	Do not know/neutral
		Agree	4
		Strongly agree	5
		Strongly disagree	1
		Disagree	2
		E. Provide valuable insights to support patient care transitions.	Do not know/neutral

² The 'neutral' answer is an addition to the four number 8 questions of the current survey.

³ This question is not in the current survey

9	Using the C-HOBIC outcomes has:	A. Improve the consistency of clinical documentation.	Agree	4
			Strongly agree	5
			Strongly disagree	1
			Disagree	2
			Do not know	3
		B. Added value to the assessment of my patients.	Agree	4
			Strongly agree	5
			Strongly disagree	1
			Disagree	2
			Do not know	3
		C. Been easy for me to integrate into my practice.	Agree	4
			Strongly agree	5
			Strongly disagree	1
			Disagree	2
			Do not know	3
		D. Positively influenced patient care directions.	Agree	4
			Strongly agree	5
			Strongly disagree	1
			Disagree	2
			Do not know	3
		E. Increased my workload.	Agree	4
			Strongly agree	5
			Strongly disagree	1
			Disagree	2
			Do not know	3
10	Access to patients C-HOBIC outcome information has	A. Improved patient care planning.	Agree	4
			Strongly agree	5
			Strongly disagree	1
			Disagree	2
			Do not know	3
		B. Improved patient care coordination.	Agree	4
			Strongly agree	5
			Strongly disagree	1
			Disagree	2
			Do not know	3
		C. Improve the provision of appropriate interventions.	Agree	4
			Strongly agree	5
			Strongly disagree	1
			Disagree	2
			Do not know	3
		D. Supported patient/family participation and care	Strongly disagree	1
			Disagree	2
			Do not know	3

		planning.	Agree	4
			Strongly agree	5
11	I am likely to continue to access the C-HOBIC outcome information from our patients		Yes	1
			No	2
12	How participants would recommend C-HOBIC to others.	New column "NEW Q12: recommend for others	Would recommend	1
			Would not recommend	2

Appendix G

Survey output

Response	Chart	Percentage	Count
I consent to participate (you must check this to start the survey)		100.0%	71
		Total Responses	71

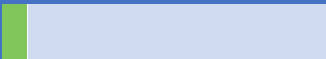
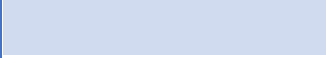
My primary position is:

Response	Chart	Percentage	Count
Registered Nurse		90.1%	64
Licensed Practical Nurse		4.2%	3
Registered Psychiatric Nurse		0.0%	0
Nurse Practitioner		0.0%	0
Clinical Care Coordinator		0.0%	0
Case Manager		0.0%	0
Primary Care Physician		0.0%	0
Dietitian		0.0%	0
Physiotherapist		0.0%	0
Occupational Therapist		0.0%	0
Social Worker		0.0%	0
Other, please specify...		5.6%	4
		Total Responses	71

My primary position is: (Other, please specify...)

#	Response
1.	Program Team Manager
2.	Clinical resource nurse
3.	Program Team Manager
4.	Nurse Educator

My gender is:

Response	Chart	Percentage	Count
Male		7.0%	5
Female		93.0%	66
Other, please specify...		0.0%	0
		Total Responses	71

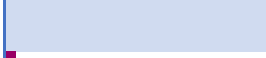
My gender is: (Other, please specify...)

#	Response
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My years of clinical experience:

Response	Chart	Percentage	Count
0 – 5		43.7%	31
6– 10		15.5%	11
11 – 15		11.3%	8
16 – 20		4.2%	3
> 21 years		25.4%	18
		Total Responses	71

My primary work setting is:

Response	Chart	Percentage	Count
Acute care		74.6%	53
Homecare		0.0%	0
Long-term care		0.0%	0
Primary care		1.4%	1
Complex Continuing Care		0.0%	0
Rehabilitative care		2.8%	2
Palliative care		9.9%	7

Convalescent care	0.0%	0
Emergency Department	0.0%	0
Other, please specify...	11.3%	8
Total Responses		71

My primary work setting is: (Other, please specify...)

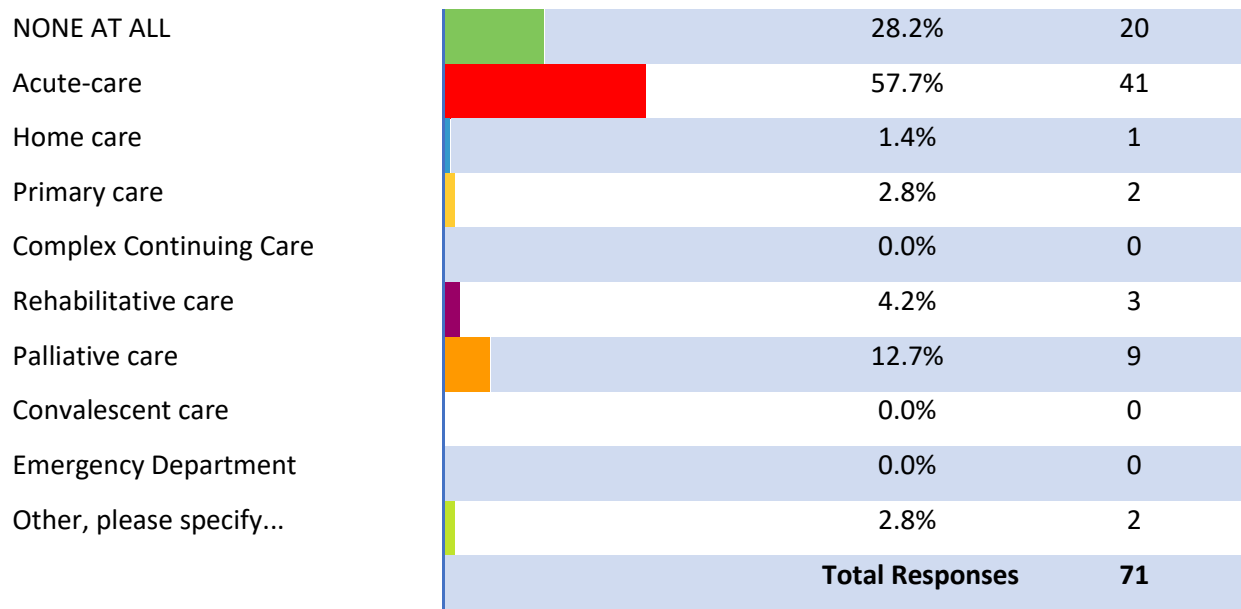
#	Response
1.	Bed Utilization, previously internal medicine
2.	Surgery
3.	acute, rehab, palliative
4.	also palliative care patients
5.	[Family medicine] Family Medicine
6.	[Family medicine] Family practice medicine
7.	[Family medicine] Medical ward (family medicine)
8.	[Family medicine] family medicine

I am familiar with the C-HOBIC outcomes:

Response	Chart	Percentage	Count
Yes		74.6%	53
No		25.4%	18
Total Responses			71

I have had the opportunity to review patients C-HOBIC outcomes in the following settings (choose all that apply):

Response	Chart	Percentage	Count
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I have had the opportunity to review patients C-HOBIC outcomes in the following settings (choose all that apply): (Other, please specify...)

#	Response
1.	family medicine
2.	gynecology surgery and gynecology oncology

The information system used to document and/or retrieve the C-HOBIC outcome is (choose one of the four available responses):

	Strongly Disagree	Disagree	Agree	Strongly Agree	Total Responses
Accessible:	9 (12.7%)	12 (16.9%)	43 (60.6%)	7 (9.9%)	71

Any comments?

The 17 response(s) to this question can be found in the appendix.

The information system used to document and/or retrieve the C-HOBIC outcome is (choose one of the four available responses):

	Strongly Disagree	Disagree	Agree	Strongly Agree	Total Responses
Reliable:	7 (9.9%)	23 (32.4%)	38 (53.5%)	3 (4.2%)	71

Any comments?

The 9 response(s) to this question can be found in the appendix.

The information system used to document and/or retrieve the C-HOBIC outcome is (choose one of the four available responses):

	Strongly Disagree	Disagree	Agree	Strongly Agree	Total Responses
Easy to use:	8 (11.3%)	13 (18.3%)	46 (64.8%)	4 (5.6%)	71

Any comments?

The 14 response(s) to this question can be found in the appendix.

The information system used to document and/or retrieve the C-HOBIC outcome is (choose one of the four available responses):

	Strongly Disagree	Disagree	Agree	Strongly Agree	Total Responses
Responsive:	15 (21.1%)	23 (32.4%)	31 (43.7%)	2 (2.8%)	71

Any comments?

The 12 response(s) to this question can be found in the appendix.

The following statements relate to the collection and use of the C-HOBIC outcomes (e.g., Functional status, continence, symptoms, falls, skin breakdown, & therapeutic self-care). The C-HOBIC outcome measures (choose one of the five available responses):

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't know	Total Responses
Are easy to use:	9 (12.7%)	6 (8.5%)	19 (26.8%)	28 (39.4%)	7 (9.9%)	2 (2.8%)	71

Any Comments?

The 5 response(s) to this question can be found in the appendix.

The C-HOBIC outcome measures (choose one of the five available responses):

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't know	Total Responses
Are relevant to the care of my patients:	14 (19.7%)	22 (31.0%)	14 (19.7%)	16 (22.5%)	4 (5.6%)	1 (1.4%)	71

Any Comments?

The 11 response(s) to this question can be found in the appendix.

The C-HOBIC outcome measures (choose one of the five available responses):

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't know	Total Responses
Support clinical decision-making:	17 (23.9%)	19 (26.8%)	20 (28.2%)	12 (16.9%)	1 (1.4%)	2 (2.8%)	71

Any Comments?

The 15 response(s) to this question can be found in the appendix.

The C-HOBIC outcome measures (choose one of the five available responses):

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't know	Total Responses
Provide valuable insights to support patient care transitions:	17 (23.9%)	20 (28.2%)	18 (25.4%)	13 (18.3%)	1 (1.4%)	2 (2.8%)	71

Any Comments?

The 13 response(s) to this question can be found in the appendix.

Using the C-HOBIC outcomes has (choose one of the five available responses):

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't know	Total Responses
Improved the consistency of clinical documentation:	20 (28.2%)	25 (35.2%)	14 (19.7%)	2 (2.8%)	10 (14.1%)	71

Any Comments?

The 8 response(s) to this question can be found in the appendix.

Using the C-HOBIC outcomes has (choose one of the five available responses):

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't know	Total Responses

Added value to the assessment of my patients:	18 (25.4%)	24 (33.8%)	21 (29.6%)	1 (1.4%)	7 (9.9%)	71
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Any Comments?

The 13 response(s) to this question can be found in the appendix.

Using the C-HOBIC outcomes has (choose one of the five available responses):

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't know	Total Responses
Been easy for me to integrate into my practice:	13 (18.3%)	25 (35.2%)	25 (35.2%)	3 (4.2%)	5 (7.0%)	71

Any Comments?

The 18 response(s) to this question can be found in the appendix.

Using the C-HOBIC outcomes has (choose one of the five available responses):

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't know	Total Responses
Positively influenced patient care directions:	19 (26.8%)	27 (38.0%)	13 (18.3%)	3 (4.2%)	9 (12.7%)	71

Any Comments?

The 9 response(s) to this question can be found in the appendix.

Using the C-HOBIC outcomes has (choose one of the five available responses):

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't know	Total Responses
Increased my workload:	1 (1.4%)	5 (7.0%)	33 (46.5%)	28 (39.4%)	4 (5.6%)	71

Any Comments?

The 11 response(s) to this question can be found in the appendix.

Access to patients C-HOBIC outcome information has (choose one of the five available responses):

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't know	Total Responses
Improved patient care planning:	19 (26.8%)	26 (36.6%)	17 (23.9%)	2 (2.8%)	7 (9.9%)	71

Any comments?

The 11 response(s) to this question can be found in the appendix.

Access to patients C-HOBIC outcome information has (choose one of the five available responses):

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't know	Total Responses
Improved patient care coordination:	18 (25.4%)	25 (35.2%)	13 (18.3%)	1 (1.4%)	14 (19.7%)	71

Any comments?

The 7 response(s) to this question can be found in the appendix.

Access to patients C-HOBIC outcome information has (choose one of the five available responses):

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't know	Total Responses
Improve the provision of appropriate interventions:	17 (23.9%)	25 (35.2%)	13 (18.3%)	2 (2.8%)	14 (19.7%)	71

Any comments?

The 4 response(s) to this question can be found in the appendix.

Access to patients C-HOBIC outcome information has (choose one of the five available responses):

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't know	Total Responses
Supported patient/family participation in care planning:	19 (26.8%)	24 (33.8%)	14 (19.7%)	2 (2.8%)	12 (16.9%)	71

Any comments?

The 7 response(s) to this question can be found in the appendix.

I am likely to continue to access the C-HOBIC outcome information from our patients:

Response	Chart	Percentage	Count
Yes		35.2%	25
No		64.8%	46
Total Responses			71

Why or why not?

The 71 response(s) to this question can be found in the appendix.

I would recommend the C-HOBIC outcomes for use (check all that apply):

Response	Chart	Percentage	Count
By my colleagues		26.8%	19
In other clinical settings		31.0%	22
In other provinces		9.9%	7
As informational support to patients and families		16.9%	12
Other, please specify...		47.9%	34
		Total Responses	71

I would recommend the C-HOBIC outcomes for use (check all that apply): (Other, please specify...)

#	Response
1.	I wouldn't .
2.	i don't recommend CHOBIC outcomes to others
3.	C-HOBIC seems to have been developed by academics without awareness of the burden it creates for the staff who take the time to answer the questions.
4.	not sure I can recommend it
5.	I have no idea
6.	not at all
7.	can't say I would recommend it
8.	never
9.	no
10.	No
11.	
12.	I really hope someone is using this system, but it isn't me.

13. none
14. i wouldn't recommend.
15. I wouldnt
16. It may be useful in long term care but not in acute care settings.
17. none
18. I'm really not sure what to write.
19. C-HOBIC is an absoulty usesly tool for critical care. It is complete waste of a nurses time to fill out.
20. I would only support this if I could see immediate and true value to the care of my specific group of patients (high risk obstetrics, surgical,)
21. I wouldn't b/c I have no experience with it
22. i would not
23. I would not recommend CHOBIC outcomes at all
24. would not recommend this system , it is time consuming and of very little value
25. good idea-inadequate user-ability and computer capabilities
26.
27. it is more work than it is worth
28. No where
29. none of the above
30. not at all, because not body really used C-HOBIC, everybody seem to do there own assessments and document separately. No consistency
31. would not recommend it
32. none
33. Dont see actual outcome data use in our institution or it has not been shared.
34. To no-one.

Appendix

Any comments? |

#	Response
1.	The ability to document C-HOBIC data is easily accessible to staff, but no outcomes from the information entered is accessible or shared with staff.

2.	unable to find what C-HOBIC stands for anywhere in our documents
3.	unsure
4.	I don't know of anyone that refers back to the information
5.	Our unit which was made to use C_HOBIC on admission/discharge never reviews/retrieves information from C-HOBIC but still fills the information out.
6.	It is easily accessible but I have little time to review as workload is heavy. So I find most nurses will ignore looking at
7.	Use chobic for admission and discharge
8.	I compile the data on my patients but I have no idea who is looking at or analyzing that data. Thus far I have no idea of what effect the data collection has produced.
9.	I do not have access to a system to retrieve outcomes
10.	Via EPR
11.	Absoulty no use for this
12.	As long as the nurse is competent within the electronic record.
13.	never used it! I remember hearing about it, but have never accessed it.
14.	the system is slow and wieldly
15.	EPR
16.	I'm not sure the purpose of C-HOBIC
17.	CHOBIC IS A WASTE OF OUR TIME

Any comments? |

#	Response
1.	Again the system is reliable for documentation of responses to questions, but the outcomes of the data entered is not used or accessed by staff.
2.	unsure
3.	I would agree that it is reliable because the nurse provide the correct information, but for our patient population it is unnecessary.
4.	probably not so much, since it's kind of pointless and no one ever looks at it, i don't think much care is given to accuracy
5.	not as useful upon discharge as it is during inital assessment
6.	Absoulty no use for this
7.	again- never used it

8.	mostly- but not everyone charts the information.
9.	Not many people ask all the questions, some just assume the answers

Any comments? |

#	Response
1.	Easy to answer all the C-HOBIC questions with patients on admission and discharge, but staff unaware how to retrieve the data outcomes.
2.	Retrieving information is not easy
3.	to time consuming. program slow
4.	The information obtained can be obtained through other means .. not useful for day to day assessments
5.	Quite time consuming to answer all the questions on admission - perhaps emerg dept could start
6.	I have yet to come across a patient to whom the questions/answers did not apply.
7.	computers are slow at times
8.	the discharge questions should be slightly different
9.	Very time consuming to collect information that is not being used. This time is taken away from direct patient care.
10.	Absolutely no use for this
11.	it may be...never used it though
12.	very unclear if the information you fill in should be their current abilities or what they were like at home
13.	because of how slow it is
14.	Nobody showed me how to retrieve other results. Though I think this is a waste of time.

Any comments? |

#	Response
1.	C-HOBIC outcomes are not relevant
2.	I don't understand this question.
3.	unsure
4.	Doing this on admission and discharge feels like ++ extra work with no benefit to our work.
5.	The information that is documented is never retrieved for any use with our patient population.

6.	i guess by responsive you mean that something happens with the data?
7.	duplicate question
8.	I dont understand the question
9.	Absoulty no use for this
10.	The timing of this admission interview with the patient does not make sense from a surgical perspective (done once the patient has arrived on post op in-patient unit (under the influence of narcotics/dealing with pain and nausea...not an appropriate time to question a patient regarding baselines. Should be done before surgery in the preop areas although time does not permit this activity pre op.
11.	never used it
12.	somewhat

Any Comments? |

#	Response
1.	No outcome measures are available and if they were it would only reflect a brief time period. It is not a dynamic assessment
2.	I have had problems when unable to communicate with patients due to language barriers.
3.	some questions the patients dont understand and they also think their anwsers might not allow them to be discharged
4.	Absoulty no use for this
5.	never used it

Any Comments? |

#	Response
1.	As staff receive no feedback or correlation of the data that is collected to patient care, it has no relevance.
2.	In may be helpful for the admission day, but beyond that point it is not relevant. It is static.
3.	Applies to longer stay surgical patients but not really short terms.
4.	at one point in time, i.e. right after collection
5.	generally not relevant to our one or two day stay surgical patients
6.	I get patients from all ages and stages in life, and some aspects are not applicable to them.
7.	Patient's often stay too short and often are functioning very well at home before coming into my unit as it is a surgical unit

8.	not always.
9.	As a nurse on an actual palliative medicine unit, I feel it is NOT my responsibility, nor is it my primary interest in what this patient needs from me, to be assessing their home environment. Whether their bathroom is on the main floor or 2nd floor of their private residence, is of no consequence or concern to me in my daily role.
10.	Absolutely no use for this
11.	The assessments don't need to be cross referenced. It would make sense to take the survey on admission, not leaving. There is enough documentation to support any change in results ie: delirium/ CVA.

Any Comments? |

#	Response
1.	Staff are asking the questions and completing the data because they have been told they have to.
2.	No reference is ever made to C-Hobic regarding clinical decisions. It is not apparent to me how it could support clinical decisions.
3.	once the chobic documentation is done, no one looks at it again!
4.	I only ever look at them during admission & discharge honestly
5.	at one point in time, i.e. right after collection
6.	Most of our patients are short stay, for the pt's this is appropriate for are assessed by multidisciplinary team such as OT, PT, homecare and pt's discharged when pt. back to baseline is then discharged.
7.	I compile the data -thus far I have not accessed it to aid in day to day work.
8.	specifically for services required after discharge
9.	they may but staff is not using it in that way
10.	At times they do, and don't. I don't often look back to the CHOBIC when making a fly decision
11.	I've never referred to it to make clinical decisions as I don't find it relevant
12.	Can be difficult depending on how well the nursing staff communicates with physicians support services etc. I find physicians at my current work place don't inquire more into CHOBIC outcomes, these need to be better communicated by nursing staff.
13.	Absolutely no use for this
14.	Some areas assist in decision making but other areas are not related to how decisions are made
15.	The CHOBIC measures are a waste of my time.

Any Comments? |

#	Response
1.	C-HOBIC is done as a requirement. If I had a choice I would not do it. No value to patient transitions.
2.	maybe could be, but usually done in such a hurry, often after the patient has already left
3.	As above.
4.	No one ever looks at it as pt care changes/transitions.
5.	Don't know of ward nurses who use chobic after admission
6.	Have not yet used the data compiled.
7.	not utilized in that manner
8.	Yes in regards to Fall's Risk etc.
9.	It is a completely time consuming piece of my job that compromises my other patient's care because I cannot be with them, or administering medications they need because the admission process has been so severely extended by CHOBIC.
10.	Absoutly no use for this
11.	if used consistently
12.	The multidisciplinary team doesn't even look at C-HOBIC during their assessment
13.	The CHOBIC measures are a waste of my time.

Any Comments? |

#	Response
1.	once the initial assessment is completed, it often isnt looked at again
2.	C hobic is not consistently done and I don't refer to admission assessment to see if there are any changes.
3.	we're all documenting on the same things
4.	Agree if all the sections are consistently filled out for admissions
5.	I can't recall a discussion about care in which the staff nurses looked at the c-hobic. Perhaps because it's a new system?
6.	It asks me to document things that are of no concern to me in my role, which takes up time unnecessarily and is not an efficient use of tax dollars.
7.	Absoutly no use for this
8.	The CHOBIC measures are a waste of most people's time.

Any Comments? |

#	Response
1.	Some of the information collected is valuable, but other info is obtained in other tools/assessments so is a duplication of work for nursing.
2.	It is static information representing a brief point in time there is no long term value. The flow sheets are done every shift and provide assessments in real time.
3.	I get a detailed INITIAL assessment, which is helpful to me in the moment, but it isnt ever changed, used or updated, so what is the point?
4.	maybe right at admission, but a lot of that will look different a few days later or a few hours later...
5.	invaluable use of time, "make work project", provides no value
6.	For the patient that stay on our unit for more then 48hrs, yes.
7.	It's formalized questions I would ask anyway.
8.	In regards to safetey issues and medication and self care knowledge yes.
9.	only some of the questions are useful
10.	Our admission CHOBIC "assessment" is no different than that of what the doctor's will be assessing with the patient. Once again, double documentation is happening, and I resent that it takes so much of my time.
11.	Absoulty no use for this
12.	On busy and fast turnover in-patient acute care settings...there are so many necessary assessments to be carried out at time of admission that this has only added to that burden. If we could see true and real time value from this, we would likely be more engaged in this assessment.
13.	ONE survey makes sense; it is a waste of time to do it twice. Nobody looks at change in results anyway; if they do, they have nothing better to do.

Any Comments? |

#	Response
1.	Has just added to workload when admitting and discharging a patient.
2.	It takes time, it is not difficult, it is a expectation of my initial assessment on a patient
3.	easy enough to complete, but time consuming and not ever looked at again
4.	Never looked at or assessed to work into practice
5.	just takes time though
6.	As above

7.	Once documented it is rarely referred to again
8.	Very time consuming when assignment is heavy
9.	The data collection part is easy.
10.	staff have not verbalized this
11.	Often time consuming and patient's often become frustrated as they are exhausted from surgery
12.	So many technological changes have occurred in the work place that I find I often don't know what I am supposed to be doing in terms of which assessment tools I am supposed to be using for documentation. Documentation seems to be much less consistent than before because documentation has become very complicated and not intuitive, which means it is not getting done.
13.	Absolutely no use for this
14.	Has become one more addition to an already heavy in assessment transition (admission/discharge)...difficult to do successfully in a fast paced and rapid turnover type of setting.
15.	patients come to unit with sudden changes(from walking one hour to unresponsive the next), can be difficult to determine c-hobic
16.	relatively-
17.	many of the questions are not relevant to my practice
18.	It wastes my valuable time. It wastes my patient's and families' times.

Any Comments? |

#	Response
1.	It is a stagnant document that is not relevant to ongoing patient care
2.	No effect on pt care directions. Information inputted and never looked at again
3.	just a one time look doesn't do much--as a nurse, I am constantly assessing minute by minute and don't need a framework to do that on
4.	Don't refer to it for patient care. Use face to face report and EPR
5.	It hasn't affected my care. Is anyone else, perhaps management, made use of what we collect?
6.	it is not looked at once completed
7.	They would receive these directions from staff regardless if the CHOBIC was in use.
8.	Absolutely no use for this

9. CHOBIC wastes everybody's time and causes frustration, thus poorly influencing care for the moment.

Any Comments? |

#	Response
1.	Absolutely. There is no value added in doing CHOBIC the information is a duplication of risk assessment tools braden, Schmid. Much of the other information is duplication.
2.	adds extra time to the initial assessment done
3.	much more time now spent charting
4.	Time consuming with no useful data that applies to practice
5.	duplication
6.	Yet another form to fill out.
7.	As mentioned before, I'm being asked to spend time documenting and assessing things that are of no concern to MY role, the admission process is extremely time consuming and convoluted that I am no longer even certain of the proper process of how it is done which can lead to errors. I'm not saying the system is useless, I think it's in its infancy, and can be much improved. Often when creating a new process for either documentation, or what have you, is the best solution. If things were just more simply laid out, and made to be more intuitive for the average user to use, and the unnecessary details are eliminated, it would most likely be an excellent system.
8.	Absoulty no use for this
9.	Found to be time consuming to complete and has not directly impacted my care plans for pt over and above my ability to speak with the pt. They are not referenced throughout the stay.
10.	It is much slower to document in these formats effectively- largely due to computer speed
11.	Unnecessarily increasing my workload. We don't need any more work; we are already stretched thin. Lets not make a make-work project. Lets not do it again!

Any comments? |

#	Response
1.	Staff are not using the data collected.
2.	How can this be measured? Subjectively I would say no. It does not impact patient care.
3.	Not used at all for pt planning.
4.	Other processes in place
5.	I'm not making use of the collected data. Is managment? Are other disciplines using it?
6.	Only if concerns are verbalized and communicated to the appropriate support services.

7.	Absolutely no use for this
8.	it really does not affect pt care. assessments are done on a continuum
9.	if documentation is there- it can assist in making sure plans are followed through.,
10.	the team doesn't use the C-HOBIC to plan - C-HOBIC was never been used after the initial assessment
11.	Those who think it does actually improve care planning are kidding themselves. CHOBIC wastes everyone's time.

Any comments? |

#	Response
1.	Not part of patient care coordination
2.	In context of discharge planning, home care coordinators have told me they don't access C-HOBIC document.
3.	Not used
4.	not from my point of view
5.	I don't know who is using the information we're compiling.
6.	Absolutely no use for this
7.	CHOBIC takes away from actually caring for the patient.

Any comments? |

#	Response
1.	Does not impact interventions.
2.	I can't see anything that has changed since we started using it, but I work on only 1 ward.
3.	Absolutely no use for this
4.	Nobody reads CHOBIC. Nobody cares about CHOBIC.

Any comments? |

#	Response
1.	Information from CHOBIC is never shared with families.
2.	CHOBIC has no value to patients or family
3.	Not used for planning in care.

4.	I'll say no. To the best on my knowledge, none of my co-workers are referencing the data once it's collected.
5.	Absolutely no use for this
6.	only in situations that a family member is present when assessment is taking place.
7.	not sure if patient and family participation has increased

Why or why not? |

#	Response
1.	we enter the information in to the system on admission and then again on discharge. at no other times are we looking at this info. it goes to some administrator for evaluation and the front line staff never see any outcome from this tool.
2.	They has never been a correlation of the CHOBIC data collected to patient care and patient care activities at SBH. Completion of CHOBIC is not consistent within the hospital and staff that do complete it, do so because it is an expectation.
3.	There is no outcome information. I don't believe the scores add value in the ongoing care of the patient. It is reflective of a short point of time and does not provide any ongoing assessments.
4.	perhaps it isn't being used effectively, but it is done once, then never looked at again.
5.	If adequately completed, the assessment tool is useful in creating an effective care plan for patient.
6.	To plan discharge teaching requirements
7.	to hopefully improve pt care
8.	helpful when pts are at more risk for falls
9.	Because it is required
10.	I have to do it, per policy
11.	patient care is based on what the patient is doing at the time not what c-hobic has in it. staff is the best source of information for patient care
12.	It doesn't alter or contribute to plan of care or discharge planning. It's redundant in light of our other initial assessment form and does not accurately track the work we do as nurses.
13.	i will start
14.	inconvenient to access.
15.	Policy
16.	I do not have time to compare the initial CHobic with the discharge one. We can do our assessments without the added work of information gathering which is already done on a shift to shift basis. with OT and PT and HC etc.

17.	Never used it once to get information on pt's
18.	Our patient population is not the appropriate group for this program to be helpful for care planning.
19.	didn't see much use in it and it just takes time
20.	Provides no value because other processes are in place.
21.	it is a must
22.	It is our hospital policy to fill out the chobic on all patient that are staying in hospital for more then 48 hrs. If the patient is 'more ill' or chronic the chobic is very helpful and relavent, but if the patient is healthy and in for a shorter term hospital stay the chobic inital assessment is useless and not relevent.
23.	only because I have to
24.	To find out most appropriate care plan for my pts
25.	It is easy to use and convenient
26.	Once chobic is initially done it is rarely reviewed until discharge. Information on or is from daily chartig
27.	Have no time to access the info and takes time away from my patients
28.	Too time consuming and not used in day to day patient care for me
29.	I don't access it now. I simply collect it.
30.	the information is generally not applicable to many of our patients so it is not necessary to refer to it
31.	i do not have access
32.	I don't currently access it after it is done
33.	Requirement to admitting/discharging patients.
34.	It is not making the care I give any better, time consuming with limited goals relevent to care
35.	it helps in guiding the patients discharge and care plan
36.	I find the C-HOBIC is just "another thing to do". Who is looking at the this information? We are never informed of the benefits/outcomes of C-HOBIC. Time consuming and overall seems invaluable. Who is using this tool to guide decision making, or as any value to patient care?
37.	I just don't really find it that useful for many of the patients I get.
38.	i have no other choice
39.	I often dont feel that their function will be adequately assessed as they recovery will mainly occur at home and the patient will not know at the time of discharge
40.	I don't see a point to it, it's repetitive, not sure the purpose of the CHOBIC.

41.	not enough time.
42.	I wouldnt use it upon discharge if i didnt have to
43.	I currently use c-hobic only because i am required to
44.	Critical in getting patients home safely with proper supports in place. Ability to have quality of life.
45.	i like this system and all the miutidisciplinary team members can access this program to aid in the discharge of our surgical patients
46.	Currently do not utilize the information.
47.	I find the use of CHOBIC to be very time consuming when my time can be allotted to more providing more useful tasks/skills/documentation. I complete the CHOBIC only because it is a requirement. I have never used the information gathered from the CHOBIC.
48.	It's too complicated, it's unnecessary to me in my role.
49.	Absoulty no use for this
50.	There is no choice!!
51.	not done in my area
52.	many of them have changed rapidly or what they did at home is no longer applicable
53.	not helpful
54.	This is mandatory upon patient discharge or admission.
55.	The info on CHOBIC is found other places in chart, it's another form to fill out - repetitive, wastes time, hard to find in chart.
56.	I am required to.
57.	Again it is time consuming, I do not reference it once entered. It does not impact my care for my pt on the unit at all.
58.	Not really valuable or relevant
59.	It assists me in providing care
60.	I have never found the information relevant to my careplan. If I do the C-hobic at discharge, I don't know if people ever read it or benefit from the information gathered.
61.	because it is part of my job to do the assessment on admission and discharge
62.	It's useless
63.	It is easy to use and reliable
64.	I am unclear who uses the C-HOBIC data. I feel that it is a waste of time, espeically on discharge. Nursing other allied health make the same assessments without filling the C-HOBIC. I feel that it it adds nothing beneficial to the care of our patients.

65.	Due to hospital policy
66.	I'm not sure if I understand the question fully but we use the tool initially to admit a patient to our unit but rarely refer to it after that. I know that some of the other disciplines do refer to C Hobic for discharge planning.
67.	where do I find the C-HOBIC outcome and how do I access it
68.	I feel it makes no difference in the care of my patients
69.	Does not impact the care or plan of my patients
70.	Not even sure how to get that information.
71.	I document on CHOBIC because I have to. I cringe everytime I waste my time not caring for my patient, and typing in the pointless values of CHOBIC. I am glad there was a survey about this atrocity.

Survey output